

HINTS TO MOTHERS

FOR THE
MANAGEMENT OF HEALTH
DURING THE PERIOD OF
PREGNANCY AND IN THE LYING-IN ROOM:

WITH AN EXPOSURE OF POPULAR ERRORS IN CONNECTION WITH THOSE SUBJECTS
AND

HINTS UPON NURSING.

BY

THOMAS BULL, M.D.

Author of 'The Maternal Management of Children in Health and Disease.'

THOROUGHLY REVISED

BY

ROBERT W. PARKER, M.R.C.S. ENG.

Assistant-Surgeon to the East London Hospital for Children;
Surgical Registrar (formerly House-Surgeon &c.) at the London Hospital;
Late Resident Medical Officer, Hospital for Sick Children, Great Ormond Street.

LONDON:

LONGMANS, GREEN, AND CO.

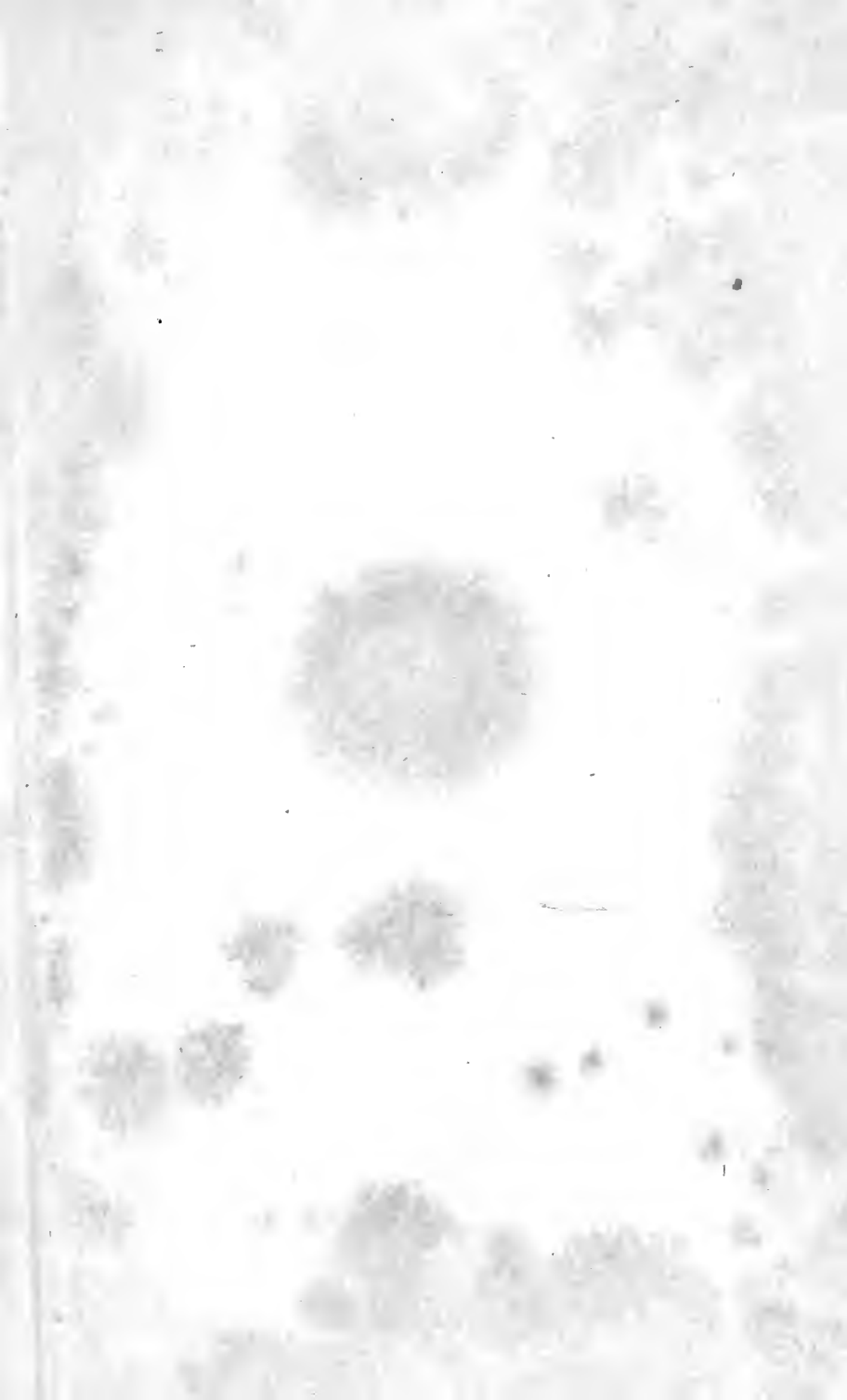
Price Half-a-Crown.

Engl. & Americ. Books
224, Rue de Rivoli
PARIS
NICE: 15, QUAI MASSENA

BOSTON

MEDICAL LIBRARY

& THE FENWAY.



350

HINTS TO MOTHERS

LONDON : PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
AND PARLIAMENT STREET

HINTS TO MOTHERS

FOR THE
MANAGEMENT OF HEALTH
DURING THE PERIOD OF
PREGNANCY AND IN THE LYING-IN ROOM.

WITH AN EXPOSURE OF POPULAR ERRORS IN CONNECTION WITH THOSE SUBJECTS
AND
HINTS UPON NURSING

BY 
THOMAS BULL, M.D.

Author of 'The Maternal Management of Children in Health and Disease'

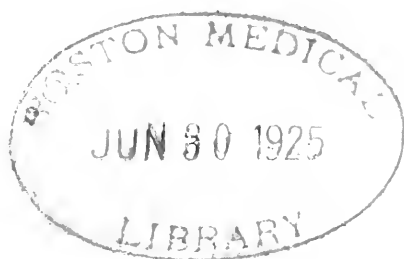
TWENTY-SIXTH EDITION

EDITED BY
ROBERT W. PARKER, M.R.C.S. ENG.

Surgical Registrar (formerly House-Surgeon &c.) at the London Hospital
Late Resident Medical Officer, Hospital for Sick Children

LONDON
LONGMANS, GREEN, AND CO.
1877

25. B. 8.



PUBLISHERS' PREFACE.

SOME YEARS having elapsed since this work and its companion volume 'The Maternal Management of Children in Health and Disease' had the advantage of the Author's revision, it appeared to the Publishers that, before issuing new editions, it was desirable to subject them to a thorough revision, and to make all such additions as had become necessary in consequence of recent advances in Medical Science.

After due consideration the two works were placed in the hands of Mr. PARKER, for some years Resident Medical Officer at the Hospital for Sick Children, and it is under his Editorship that these new editions make their appearance.

The Publishers would only add that the large sale and constant demand for these works

—one having passed through twenty-four and the other through thirteen editions—may not unfairly be appealed to as a testimony of their excellence. Not only have they been thus extensively circulated at home, but thousands of copies have been sent and taken out to the Colonies and to America, thus testifying to the great popularity which the works enjoy in places where medical aid is not so readily obtainable as in our own country.

EDITOR'S PREFACE

TO

THE TWENTY-FIFTH EDITION.

IN the autumn of 1875 I was asked by the Publishers to undertake the revision of this well-known work and its companion volume, 'The Maternal Management of Children in Health and Disease.' Believing that the experience I had gained, whilst holding various resident and other appointments in hospitals, both in England and on the Continent, would materially help me, I undertook the task.

I wish it to be distinctly understood that the general plan of the work remains unchanged, although it has been found necessary to make alterations in many and to rewrite some of the chapters altogether. I can lay no claim to any of the credit, which the undoubted merits of the book have earned for it; this belongs to its

original author. My task has been to adapt the subject-matter to the altered views which are now held both as regards the recognition and the treatment of disease.

No attempt has been made to alter the homely style in which the volume was originally written, nor to introduce material appropriate to a textbook of medicine but not to a guide for lay-readers.

Such hints as are necessary for an emergency, or in the unavoidable absence of the medical man, are given throughout the volume, and I have fully kept in mind the fact that the book circulates freely in the Colonies, where medical help is not always obtainable, but where prompt action is urgently required.

ROBERT WM. PARKER.

LONDON: *October* 1876.

PREFACE

TO

THE FIRST EDITION.



IN the minds of married women, and especially in young females, those feelings of delicacy naturally and commendably exist which prevent a full disclosure of their circumstances when they find it necessary to consult their medical advisers. To meet this difficulty, as well as to counteract the ill-advised suggestions of ignorant persons during the period of confinement—are the chief objects of the following pages.

While it is believed that much of the information contained in this volume is highly important to the comfort and even to the well-doing of the married female, much of it is, at the same time, of a character upon which she cannot easily obtain satisfaction. She will find no diffi-

culty in *reading* information for which she would find it insuperably difficult to *ask*.

There are many little circumstances, too—in which it does not occur to her to seek for advice—of the nature and result of which she ought not to be ignorant. Young married women are especially liable to many needless yet harassing fears, which it has been the anxious object of the author to remove by showing that they have no foundation in truth. It has often been necessary to be minute; but that, it is imagined, will not be regarded as an imperfection.

The author's connection for some years past with a large and important Midwifery Institution has led him to direct especial attention to the important subject upon which he has ventured to appear before the public; and he must leave his work with them, in the hope that he has not written altogether in vain.

CONTENTS.

	PAGE
INTRODUCTORY CHAPTER	1

CHAPTER I.

OF THE MANAGEMENT OF HEALTH DURING PREGNANCY, AND OF POPULAR ERRORS UPON THIS SUBJECT.

SECT.		
I. Diet		20
II. Longings		25
III. The Regulation of the Bowels		28
IV. Exercise		29
V. Dress		32
VI. Bathing		35
VII. The Breast and Nipples		38
VIII. Mental Influence		40
	The injurious Influence of Mental Disturbance .	40
	The supposed Influence of the Imagination of the Mother upon the Child in the Womb . .	43

CHAPTER II.

OF THE MODE BY WHICH PREGNANCY MAY BE DETERMINED.

I. Ceasing to be Unwell	51
II. Morning Sickness	59
III. Shooting Pains through, Enlargement of, and other Changes of the Breasts	60
IV. Quickening	66

CHAPTER III.

OF THE DISEASES OF PREGNANCY, AND HINTS FOR THEIR
PREVENTION AND RELIEF.

SECT.	PAGE
I. Morning Sickness	70
II. Heartburn	76
III. Costiveness	77
IV. Diarrhœa	81
V. Palpitation of the Heart	83
VI. Fainting Fits	84
VII. Piles	85
VIII. Enlargement of the Veins of the Legs	89
IX. Swelling of the Feet and Legs	91
X. Toothache	91
XI. Salivation	92
XII. A Painful and Distended Condition of the Breasts	94
XIII. Cramp and Pains in the Legs, &c.	95
XIV. Violent Movements of the Child	96
XV. Soreness and Cracking of the Skin of the Abdomen	97
XVI. Inconvenience from Size	98
XVII. Being Unwell during Pregnancy	99
XVIII. Affections of the Bladder	100
XIX. Irritation of the External Parts	101
XX. Weakness, or the Whites	103
XXI. Pain in the Side	106
XXII. Headache	107
XXIII. Jaundice, &c.	108

CHAPTER IV.

OF THE PREVENTION OF MISCARRIAGE.

The Period of Pregnancy at which it occurs	111
Its Symptoms	111
The Causes	112
The Means to be adopted for its Prevention	115
The Plan to be followed by those who are Subject to it	115
The Means to be Employed when it is Threatened	122

CHAPTER V.

OF RECKONING, OR THE MODE OF TELLING WHEN
LABOUR MAY BE EXPECTED.

	PAGE
General Remarks, and Explanation of Tables	127
Reckoning Tables	130

CHAPTER VI.

HINTS FOR THE LYING-IN ROOM, REFERRING TO THE
MOTHER.

SECT.

I. The Period Previous to Labour	142
Of Labour itself, and the Use of Chloroform	142
Symptoms of Labour approaching	145
Attendants	147
The Bedroom	153
Aperient Medicine	154
II. The Period during the Process of Labour	154
The Bed	155
The Dress	156
Shivering	156
Vomiting	156
Cramp.	157
The Bladder	157
Examination by Medical Attendant	158
Diet	159
Posture, &c.	160
Probable Duration of the Labour	162
Close of Labour	165
How to proceed if the Child be born before the Arrival of the Medical Attendant	166
The Child may be born, but the After-birth may not be expelled	167
Twins	168
After-pains	168

SECT.	PAGE
III. From after Delivery to the Time of Leaving the Chamber	169
Arrangement of Patient's Dress, &c.	169
Passing Water	170
The Bowels	170
The Discharge	171
The Management of the Breasts	173
Visitors	177
The Recumbent Posture	178
The Bandage	179
The Diet and General Management	180

CHAPTER VII.

HINTS FOR THE LYING-IN ROOM, REFERRING TO THE CHILD.

I. The Management of the Child directly after its Birth	184
Washing	184
Putting up the Navel-string and Dressing	187
Medicine and putting the Infant to the Breast	189
II. Directions for certain Accidents and Diseases which may occur to the Infant	190
Still-born	190
Injuries received during Birth	195
Retention of Urine and Motions	196
Swelling of the Breasts	196
Discharge from the Eyes	197
Hare-lip	198
Bleeding from the Navel-String	199
Ulceration, or Imperfect Healing of the Navel	200
Bleeding from the Navel	201
Jaundice	201
Tongue-tied	202
Moles and Marks on the Skin	202

CHAPTER VIII.

OF THE BREASTS.

SECT.	PAGE
I. Sore Nipples	204
II. Uncontrollable Flow of the Milk	209
III. Milk Abscess, or Bad Breast	210

CHAPTER IX.

OF NURSING.

I. The Duty and Advantages of the Mother nursing her Infant	219
II. Of Mothers who ought not to suckle	222
III. Rules for Nursing the Infant	226
Plan to be followed until the First Teeth appear	227
Plan to be followed after the First Teeth have appeared	230
IV. Rules for the Health of the Nursing Mother	232
V. Injurious Effects to the Mother and Infant of Undue and Protracted Suckling	237
VI. Weaning	240
The Time when to take place	240
The Mode	241
VII. Drying up the Milk	242
Directly after Delivery	242
At the Time of Weaning	243
VIII. Wet-Nurse Suckling	244
Choice of a Wet-Nurse	244
Diet of a Wet-Nurse	247
General Directions	248
IX. Artificial Feeding	252
The Food suitable until the first Teeth appear	252
The Food suitable after the first Teeth have appeared	258
The Various Artificial Foods	259

CHAPTER X.

OF THE GENERAL MANAGEMENT OF THE INFANT'S HEALTH.

SECT.	PAGE
I. Apartments and Servants	265
II. Sleep	272
III. Bathing and Cleanliness	274
IV. Clothing	278
V. Air and Exercise	281
VI. Aperient Medicine <i>Enema</i>	286
VII. Calomel	293
VIII. Opiates	295
IX. Leeches	299
X. Blisters	301
XI. Poultices	303
XII. The Warm Baths	305

CHAPTER XI.

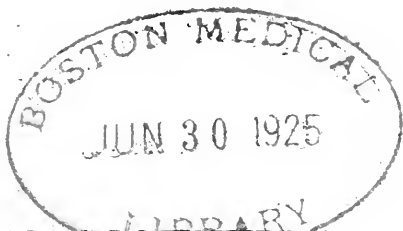
OF VACCINATION.

The Age and Condition of the Child	309
The Mode of Vaccinating	311
The Appearance and Progress of a genuine Vaccine Vesicle	312
Constitutional Symptoms and Management	313
Re-Vaccination	313
Constitutional Inaptitude	314

CHAPTER XII.

MANAGEMENT DURING TEETHING.

Period of Cutting the Teeth	316
Management, when Teething is accomplished without Difficulty	317
Management in Difficult Dentition	319
General Cautions	321
INDEX	347



HINTS TO MOTHERS.

INTRODUCTORY.

I HAVE frequently drawn attention in the course of this little work to the necessity of hygienic measures, and have considered the subject not only from a curative, but also from a preventive point of view. I purpose, nevertheless, in this introductory chapter, to give a short *résumé* of the principles of hygiene, and to explain in simple language the *rationale* on which they are founded. I feel sure that it will help to impress the subject more fully on the mind, and in that way will lead to a more thorough carrying out of the principles involved. I need hardly say that, unless our home and surroundings are healthy, we cannot expect to enjoy good health, even if the instructions relating to personal matters contained in coming chapters have been most carefully carried out. I have frequently been surprised to see with what indifference even palpable errors in sanitary matters come to be regarded after a while : a defective drain or an untrapped sink sends up its noxious vapours either after heavy rain, or when a certain wind blows, and it soon comes to be regarded as a *necessary consequence* of some change in the weather, and here the matter is too often allowed to rest.

The diseases arising from faulty habitations are in

great measure, perhaps entirely, *the diseases of impure air*.¹ The site may be in fault ; and from a moist and malarious soil, excess of water and organic emanations may pass into the house. Or ventilation may be imperfect, and the exhalations of a crowded population may accumulate and putrefy ; or the excretions may remain in or near the house ; or a general uncleanness, from want of water, may cause a persistent contamination of the air. Thus, then, the following conditions will insure a healthy habitation :—

1. A site dry and not malarious, and an aspect which gives light and cheerfulness.

2. A ventilation which carries off all respiratory impurities.

3. A system of immediate and perfect sewage removal, which shall render it impossible for the air to be contaminated from excreta.

4. A pure supply and proper removal of water, by means of which perfect cleanliness of all parts of the house can be insured.

5. A construction of the house, which shall insure perfect dryness of the foundation, walls, and roof.

In other words, **perfect purity and cleanliness of the air** are the objects to be attained.

Up to a certain point, there is no difficulty in insuring that a small house shall be as healthy as a large one. The site and foundations can be as dry, the drains as well arranged, the walls and roof can be as sound, and the water-supply as good as a house of much larger rental. And, no doubt, small houses will have to be as carefully built as larger ones, so soon as occupiers busy themselves with matters of hygiene, and show, when looking into a house, that they are con-

¹ Dr. Parkes, *Practical Hygiene*, 4th edition, p. 323.

versant with the main points of practical sanitation, and decline to rent any, which fall short of their standard. But supposing that circumstances limit our choice, and oblige us to live in an old-fashioned house, which was built before this 'sanitary era' dawned, what is to be done with a view to make such a house habitable? A good deal may be done to mitigate the ill effects which may result by a close attention to the ventilation, drainage, and water-supply. We will consider these points separately.

Ventilation.—By this I mean the imperceptible introduction into a room or space of fresh pure air. When fresh air is let into a warm room too suddenly or too quickly it causes a 'draught,' and everyone instinctively avoids a draught. They are a fruitful source of colds. Hence, if we wish to ventilate a room successfully, we must do it imperceptibly; the air must be introduced very gradually and the openings should be so arranged that they do not interfere with the personal comfort of the occupants; a good place for openings is in the cross-piece of the door frame (the lintel)—it may be made along its entire length and so arranged as to be out of sight. If desired it can be covered with a valve which only opens one way, that is, inwards. If gas is burnt in a room, there should always be ventilation in the ceiling, so that the burnt products of the gas may escape at once. There should also be a ventilating valve in the chimney or outlet air-flues in the walls, high up, close to the ceiling. The window may be opened for an inch or two at the top, if a room feel very 'stuffy.' Of still greater importance is the ventilation of the bedrooms. Seeing how many hours we remain in them at one time, it is of vast importance that the air should be pure and whole-

some. To appreciate the bearing of this remark, I need only remind you how very disagreeable is the air of a bedroom which has been occupied, to any person entering fresh from the open air. This shows how we may accustom ourselves even to very impure air; but it is none the less deleterious, and is very frequently the unsuspected cause of a restless night, or of unrefreshing sleep. Bedrooms, then, should be provided with ventilating valves; they should have if possible an open fireplace, and the window may be left open just an inch at the top. If the current of air be too strong, it may be broken by fixing in a wooden frame a piece of finely perforated zinc, or wire-gauze, two or three inches deep: the frame so constructed should be fixed outside the window-frame; the action of this simple contrivance is the same as the 'rose,' on a watering-can; it divides the current of air, in the same way as the rose divides the current of water, and breaks its fall. This is a very-simple and very effectual plan. It must every now and then be taken down and cleaned, as the small holes gradually get filled up with fine particles of dust, and so stop the current of air. With such a contrivance, which can be made as ornamental as your means allow, you need not close the top sash of your bedroom window all the year round, and you would then secure for your rooms a constant and almost imperceptible supply of fresh air. In sick-rooms, or where a fire is burning, some such arrangement is imperatively demanded. During the day when the weather is dry, the windows and doors should be left wide open.

I will here mention, as part of the subject of ventilation, that a stove in the entrance-hall is a most valuable ventilator—communicating as it does with

the out-doors, with the sitting-rooms, and by means of the staircase with the bedrooms also—it acts in a house like *the lungs* in the human body. So that wherever it is practicable I would advise you to have a stove in your hall. It will draw-in the outside air, and will warm it; when warmed, air will diffuse itself by a natural process throughout the house; and thus in winter when your dining-room door is opened, instead of the cold draughts, you would get supplies of fresh, pure, warmed air; it would rise, too, into the bedrooms, and take off the unfriendly chill which greets you when you leave your warm sitting-rooms for your cold sleeping-apartments. Though I do not advocate pampering habits, I am bound to state my belief that the sudden change from a warm fire into a cold bedroom in the depth of winter, along cold staircases and corridors, is an unsuspected cause of much pulmonary mischief.

Instead of a stove (which could be put up in almost any house, and which could be got for 30s., and upwards), if money be no object, a coil of hot-water pipes, communicating with the kitchen boiler, might be laid on. Then, without any additional trouble, your hall can be heated *ad libitum*.

Drainage.—Closely connected with the subject of ventilation is drainage, because it is by a species of natural ventilation that drain-smells are drawn back into a house: the whole aim of hygiene is to get rid of this at once and for ever. In old houses, and even in many recent ones, the drains run *through* the basement of a house. They ought to run *outside* the house, and be properly ventilated by a pipe which opens on a level with the highest point of the roof. It has often been found that a house has become per-

manently unhealthy ; and, after inspection, the fault has been found to be due to leakage of the drain pipes : little by little the soil has become contaminated, and the effluvia have risen through the boards into the house. Nothing but radical measures can avail anything here.

When there is any offensive smell from the soil-pipe of the water-closet, it should at once be seen to by a practical sanitary engineer—never trust such a matter to an ordinary plumber. A water-closet should be free from any drain-smells—frequently the pan is at fault ; it may have become rusty or corroded, and worn, so that it no longer holds water—the pan ought then to be renewed, for unless it does hold water, there is no hindrance to the regurgitation of sewer gas, and other noxious vapours. There should always be a good supply of water. It should come from a separate cistern, as it is always a dangerous matter, for the water-supply of the house to be *in any way whatever* connected with the water used for flushing purposes. I would here remonstrate against the unwise habit of emptying ‘the slops’ down the water-closet. They contain a quantity of half-dissolved soap and soapsuds, which stick to the sides of the pan and the soil-pipe, and after a while become a mechanical impediment to the outflow of the solid excreta. They also clog up the traps, and by thus interfering with their proper action, indirectly help the introduction of sewer gases into your houses.

Another source of danger is the waste-pipe on the sink. In addition to the liquids which are thrown down, there is a quantity of solid or semi-solid refuse of the ‘washing-up,’ and in order to get rid of it with the least possible trouble servants pull up the trap,

that they may the more easily wash it down. They thus place the kitchen and themselves in direct communication with the drains, and at times may unconsciously be the authors of dire mischief. This practice is exceedingly reprehensible. I would earnestly advise that the trap be screwed down, and if this should prove insufficient to prevent 'drain-smells,' then the addition of a syphon trap low down the waste-pipe underneath the sink will be very desirable.

Lastly, I will say a few words on the importance of attention to the ash-pit—never allow any refuse material to be thrown here. Vegetable matters of all kinds putrefy, and in doing so give off putrefactive germs of which the disagreeable odour is perhaps the *least* hurtful. The ash-pit should be as far removed from the house as possible, and unless it is strictly reserved for the ashes, it ought to be cleared out two or three times a week, especially in summer.

The Water Supply.—The supply, says Dr. Parkes,¹ of wholesome water in sufficient quantity is a fundamental sanitary necessity. Very few indeed, if any, householders will be able to control the kind of water supplied. As a general rule, however, I may state that, as it is supplied, it is generally fairly good, and if it be properly stored, there will be but little to fear from its use. This remark obviously only applies to pure, limpid water : owing to accidental circumstances the water may occasionally be turbid or discoloured, or it may even smell. Fortunately for us, bad water betrays itself generally in one of these three ways, and it then becomes necessary to enquire a little into the cause. The fault may lie in the cistern or the supply pipes, or it may be in the water itself : in this

¹ *Op. cit.*

latter case, your neighbours would also be labouring under the same misfortune.

Cisterns should always be well covered, and protected as much as possible from both heat and light. Care should always be taken that there is no leakage of pipes into them. A common source of contamination is an overflow pipe passing direct into a sewer, so that the sewer gases pass up, and, being confined by the cover of the cistern, are absorbed by the water; to prevent this, the overflow pipe is curved so as to retain a little water and form a trap, but the water often evaporates or the gases force their way through it; no overflow pipe should, therefore, open into a sewer, but should end above ground near a trapped grating. A cistern supplying a water-closet should not be used to supply cooking and drinking water, as the pipes leading to the closet often conduct closet-air to the cistern.

Dr. Jardine Murray says, 'In a house of small size there is usually only one cistern, from which water is drawn for drinking, cooking, and supplying the closet. The pipe which supplies a water-closet is often made to open at the end furthest from the cistern; but in many instances it will be found that water is admitted into the pipe by a plug or valve raised by means of a wire. This is much the more objectionable plan; for in the interval between the times of use, the pipe, not being occupied with water, becomes filled with foul air, which has ascended from the closet; and when the plug or valve within the cistern is raised, water does not flow down the pipe till this stagnant air has bubbled up through the contents of the cistern. By either means there is risk of contamination of the water; and it seems unnecessary

to insist that by the latter the pollution must be serious.' Hence a separate cistern should be provided for closet service, or a water waste preventer, or, at least, a long syphon trap should be let in.

The water ought not to be kept more than two or three days in a cistern; it is apt not only to deteriorate in itself, but it may possibly acquire dangerous properties from the pipes through which it is conveyed. This source of danger is now well recognised, and various means have been suggested to remedy the evil. Among others may be mentioned the enclosing of a block-tin pipe within the leaden one (Haines' patent). 'If the tin is good, it is little acted on, and the strength of the pipe is increased, while bends and junctions can be made without destroying the continuity of the tin.'

Water ought to be laid on not only to every house but to every floor, so that there may always be an abundant supply; otherwise it is apt to be used several times, thus becoming a question of labour and trouble *versus* cleanliness and health. If a house has been unlet for a while or unoccupied, it is a wise precaution to run off all the water and obtain a perfectly fresh supply. You thus avoid all risk of drinking a possibly infected water, and, further, the drains are well flushed, and the traps and valves are once more rendered thoroughly efficient.

Rain-water is justly prized in the country. In London and large towns generally it is too black and dirty to be of any service. The same rules for storage apply as in the case of hard water, and even more care is necessary to prevent decomposition. For washing purposes it is most useful and agreeable, and tends to keep the skin healthy and well. It is equally useful in the kitchen either for cooking or cleansing.

Filters.—Several methods for clearing and purifying water have been suggested. In Mr. Eassie's admirable little book, 'Healthy Houses,' I find that the best and most serviceable filters are those made by the Water Purifying Company, and Lipscombe's charcoal cistern-filter. By either of these, large quantities of water can be purified in an exceedingly short time.

Hard Water.—Mr. Eassie says, 'There is an infallible cure for water rendered hard by the presence of carbonate of lime (by far the most frequent cause of "hardness" in water). Lime is added to the water, and when the excess of carbonic acid is neutralised, the lime which was just put into the water, and the lime which was naturally present in the water, are precipitated as a carbonate of lime. The best water-softening apparatus, applied to a cistern in combination with a filter, is the patent apparatus known as Danchell's, manufactured by the London and General Water Purifying Company. Here the insoluble chalk falls to the bottom, and the softened water filters through this material and rises again into the tank in a perfectly soft state.'

In a work of this kind, it will suffice if I just mention that modern science has demonstrated beyond all doubt the fact that outbreaks of typhoid-fever, cholera, and of many other diseases, are directly traceable in many instances to impure water. With such knowledge in your possession, I feel sure that you will be most careful in carrying out the suggestions I have made as to how the water-supply shall be kept wholesome and pure, and free from contamination.

Disinfection.—I will just say a few words on this very important subject. The term is applicable to any process which can remove impurities, either from air

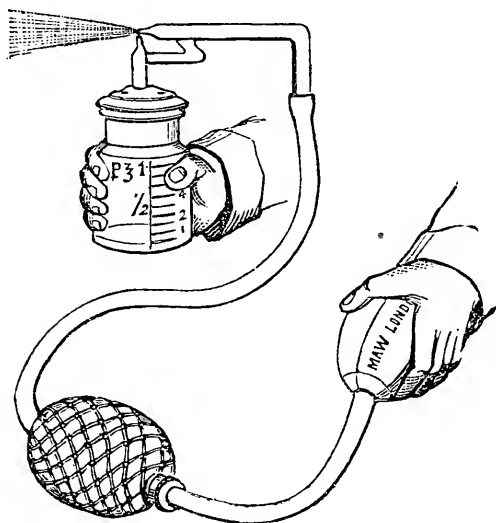
or water, or can restrain putrefaction. Dr. Parkes, in his work on Hygiene, says that rightly 'to apply "disinfection" in the modern sense of the term, we ought to know :—1, the nature of the contagious agencies ; 2, the media through which they spread ; and, 3, the effect produced upon them by the chemical methods which are supposed to destroy or modify them.'

It would be impossible, as well as unprofitable, to attempt even a *résumé* of the various theories held as to the nature of contagion. I believe the most common belief now-a-days is that the contagia are excessively small germs or particles, which, when introduced into the body, grow and reproduce the disease. The air is obviously the most likely vehicle for transporting the germs, though they may possibly be taken up either by water or food. They may thus get into the system by breathing, drinking, or eating. Hence the chief channels through which disease germs may be attacked, and hence also my remarks on the importance of ventilation, pure air, and good water. I will just illustrate each one of these chief forms of contagion.

Scarlet fever is chiefly contagious through the particles of dried skin which peel off in the later stages of the disease. They may be large and visible, or small dust-like particles, which float about in the atmosphere, and may be drawn in with the breath we breathe. The best precaution to take in such cases, therefore, is to disinfect them, if possible, before they are cast off from the body. This is best done by oiling the body of the patient, either with simple oil, or suet, or with carbolised oil, or glycerine ; in this way the disease germs are disinfected and rendered comparatively harmless, and, besides, the particles of skin are less liable to float about, from being heavier and impregnated with the oil.

Another very wise precaution is to spray carbolic solution about the room. This is done by the little instrument, an illustration of which I subjoin. Take one part of carbolic acid, and add 100 parts of warm water. Fill the spray bottle, and let it be used about the room, and about the bed. Or Condyl's Fluid, suit-

FIG. 1.



ably diluted with water, may be used for a similar purpose. Or eau-de-Cologne, when an agreeable and refreshing perfume is desired.¹

¹ The spray-producer, here figured, is manufactured by Messrs. Maw, and can be obtained of all chemists. It is a very useful instrument, and can be used for many purposes. It is especially useful in children's throat affections; they are often too young to gargle, but can easily be made to breathe in the dust from this spray apparatus. Whatever gargle has been ordered is put into the bottle; the indiarubber squeezer is then worked with the hand, and the fluid is forced out in the form of a fine dust, as in the drawing. The mouth should be widely opened, held near to the bottle, and then a few deep inspirations will insure an effectual application of the remedy.

Typhoid-fever.—In this disease, the chief source of danger lies in the evacuations from the bowels ; ‘the effluvia from them escape into the air, and will adhere to walls, and retain power for some time.’ Hence, in these cases, disinfection, to be efficient, not only in the present, but also in the future, must be applied direct and directly to the stools ; they ought to be passed into a vessel containing a strong and diffusible disinfectant, such as carbolic acid ; and they should be thoroughly mixed before being thrown away. All soiled linen should be most carefully disinfected, as it will harbour the infection for many months. Simple washing is very uncertain, and it is dangerous, too, from another point of view. If the disease-germs are washed off, they still remain in the water as potentialities ; and after the water has been thrown away they soak through the soil, and possibly find their way into the drinking-water. You know that bad water, in one form or another, is a constant cause of this disease. A most extensive outbreak occurred at Marylebone, through milk-cans having been washed with infected water. It is therefore our duty to destroy every atom of possible contagion before it is thrown out either into the drains or elsewhere.

Perhaps the best disinfectant is the liquid carbolic acid ; for it not only mixes easily with water, but diffuses itself into the atmosphere. You must bear in mind, however, that no amount of carbolic acid will atone for want of caution and due care. Neither will it save your house from the contamination of sewer gases, unless due care be paid to the condition of the drains and drain-traps. Let this maxim guide you :— ‘Carbolic acid may destroy a disagreeable smell, but it does not remove its cause.’

CHAPTER I.

*OF THE MANAGEMENT OF HEALTH DURING
PREGNANCY, AND OF POPULAR ERRORS
UPON THIS SUBJECT.*

EVERY young married woman in the prospect of becoming a mother is, naturally, deeply interested at her situation. It is new to her; and she feels it to be important. She is all anxiety to know whether it will affect her own health, if there is any plan she ought to pursue to preserve it, and whether a strict adherence to such a plan will tend to secure a vigorous constitution to her expected offspring. Suggestions similar to these arise in the minds of most women when they become pregnant for the first time, and are felt to be of no small importance by those who desire faithfully to discharge the duties and obligations of the wife and mother.

Unfortunately, however, in too many instances these reflections lead to no useful result; sometimes from an ignorance of the importance of the subject, but with the majority of newly-married women from an unwillingness to *ask* for the necessary information—an inquiry from which their delicacy naturally recoils. From whatever cause it may proceed, there can be no doubt of the fact, that hitherto there has been a lamentable want of self-management during the

period of pregnancy. I say lamentable, because of the importance of the interests involved, and the melancholy consequences often resulting from such neglect.

It is undoubtedly true that when pregnancy occurs in a woman of sound constitution, who observes habitually the ordinary laws of health, and regards also those which are demanded by the new condition in which she is placed, in general her health will not be much affected by it. But then (and this is the important point to notice) this presumes a previous careful and constant observance of those laws by which the health is ordinarily maintained, and which are now required to be more than ever vigilantly and perseveringly followed out; for no woman can be indifferent to those laws, or violate them during this period, whatever she may do at another time, without paying the cost in suffering, and occasionally in danger.

One of the most serious and most frequent consequences to the mother, resulting from this neglect, is miscarriage. And although this accident may have little in it to excite apprehension at the time, it tends, perhaps, more than any circumstance that can occur (if frequently repeated), to undermine the constitution and to destroy the future health. Moreover, the degree of suffering, duration, and safety of labour are more or less influenced by the previous management of the health. And, all other things being equal, that labour will be least painful, shortest, and safest, where the right principles of management have previously been most perfectly carried out. The same remark applies with equal force to the symptoms and well-doing of the patient during the lying-in month,

and period of suckling—facts which every day's observation confirms.

Pregnancy, labour, and suckling should ever be regarded as most intimately and closely connected with one another. Hitherto labour has been the absorbing point of anxiety with the pregnant woman, and has been too much considered by her as a separate and distinct act of the constitution, but slightly connected with any that precedes or follows it. It has just been remarked how important an influence the state of health during pregnancy exercises over labour; and, were it necessary, it would be easy to prove how the condition of health, during both these periods, has a most important influence on the capacity for suckling. Pregnancy, labour, and suckling, therefore, should be looked upon as one process; conception being the commencement, weaning the close, and labour the connecting link. Thus, a woman may consider herself a mother, not only from the birth of her child, but even from the moment of conception. From that important epoch her duties commence—duties amongst the most sacred and dignified which humanity is called upon to perform.

✓ But if this careful management be important for the mother's health, it is equally so for the health of the child. Physical education commences with the pregnancy of the mother. There is so remarkable and intimate a connection between the offspring and its parent, that it is difficult to say whether any important change can take place in the physical or mental condition of the mother, which is not liable to produce some corresponding change upon the condition of the child; and even supposing some physiologists have carried the theory of this connection too far, yet the

mere possibility of such important consequences as are involved in its being true ought to be quite sufficient motive with every rational woman for the extremest discretion. It is certain, however, that the future health and constitution of the offspring are greatly, though it may be to an indefinite extent, dependent upon the conduct of the mother. If she carefully adopt the right mode of managing herself, experience has proved that she takes the most likely steps to insure a healthy progeny. Should she, however, be careless and negligent upon this head, and fail in attention to the measures which her new condition demands—perhaps indulging in a course which, under *ordinary circumstances*, would be directly opposed to the maintenance of health—her child will inevitably be variously and injuriously affected, these causes operating through her system upon that of the child. It is very true, notwithstanding the violation of all physical laws, and even with women the subjects of incurable disease, children apparently the finest and healthy are sometimes born; after a lapse of a few months, however, or at most of a few years, disease shows itself in very many of these children, the seeds of which, it is evident enough, were deeply sown in the system before birth.

An exposition of those laws by which health ought to be regulated will not be expected here. If the reader has not a practical knowledge of their value, let the admirable and interesting work of the late Dr. Combe, entitled ‘Principles of Physiology applied to the Preservation of Health,’ be taken as a guide on this subject; or, if the reader prefer greater brevity, and a very attractive style, a little book entitled ‘Good Health; the Possibility, Duty, and Means of obtaining

and keeping it.' All that will be attempted in this chapter will be to give those directions which more immediately relate to the condition of pregnancy itself.

Popular errors on the subject of pregnancy are another point, having an important bearing upon this inquiry, and by the indulgence in which the happiness of a nervous and anxious woman is often completely destroyed, and the health and future vigour of the offspring more or less impaired. It may be said, the day is passed when prejudices of this kind can operate, that the tales and fears of former times exist no longer, and that the well-educated woman regards neither the counsels of the ignorant nor the gloomy forebodings and prophecies of popular credulity. In this I cannot concur. It may be admitted, indeed, that when truth is properly presented to such minds, it will be at once received; yet as a question like this has never been plainly discussed with a view to popular perusal, even now the sensible and otherwise strong-minded woman is more or less under the influence of notions as absurd in themselves as they are mischievous in their tendency. Every medical man much engaged in the lying-in room can attest the truth of this statement. A few only of those errors which are most prevalent will be noticed, and an endeavour made to convince the nervous and timid woman that while on the one hand they ought not to cause pregnancy to be looked upon as a period of privation and suffering, on the other they need not in any degree injuriously influence a condition which, while it demands much care and prudence, is perfectly compatible with health and enjoyment.

Before concluding these few prefatory remarks, I am desirous of adding a word or two upon the serious and fatal effect which, I believe, marriage frequently exercises upon the young woman of *delicate health*. It is true, and experience justifies the statement, that this event now and then seems to produce a most beneficial and salutary influence upon the constitution of such an individual ; it becomes invigorated by it, and, pregnancy occurring, established. In the majority of cases, however, the result is far otherwise. And how many instances, if we look around, may we number of young female friends who, after a first or second child-bearing, have sunk rapidly into the grave ! Now how is this ? In what consists the difference in the two cases ? I believe it to be just this, that where health becomes improved by marriage, the frame, although delicate, is free from disease, or from a predisposition to it—the organs of the body are sound ; but in the other case (and this is the example of the larger class) a consumptive tendency, more or less strong, exists, and marriage in such depresses the vital powers, permanently weakens the frame, and thus develops, more or less rapidly, this most fearful and most destructive malady ; and life is thus cut short, which, had not marriage taken place, might by a watchful and vigilant care have been prolonged many years. It is most important that parents should be fully aware of these facts—of the fatal influence of the married life on such a state of constitution—that they may do all they can to dissuade those who are so circumstanced from an alliance which can be productive only of misery. I know it will be said that cases occur in which child-bearing would seem to have a decidedly contrary effect, and to arrest the progress of consumption ; that a woman, having decided con-

sumptive symptoms, shall fall pregnant, and such symptoms shall directly abate, and by-and-by seem almost to disappear; and, year after year, she shall go on bearing children, and, as long as she does so, her original disorder shall be kept in abeyance. Immediately, however, this condition ceases, the consumptive symptoms again appear, and perhaps quickly terminate life. It is very true that striking instances of this kind occur now and then; but extensive observation will prove these to be exceptions to the general rule.

Where children are known to inherit a predisposition to consumption, although they may be in the enjoyment of apparent good health, they should be prevented, if possible, from allying themselves with such as are in the same predicament; for when both parents are strumous, their children will, in all probability, be doubly so. How much misery and suffering is thus inflicted on the offspring, which, humanly speaking, might be prevented by a prudent avoidance of such ill-assorted marriages! The practical physician, if he feels rightly, feels these things deeply, and gladly embraces every opportunity of throwing out a hint that may tend, however remotely, to lessen this evil. To no physician is the present generation so indebted for enlightened views upon this subject as to Sir James Clark, in his admirable work on *Pulmonary Consumption*.

Sect. 1.—Diet.

Almost the first error committed during pregnancy has reference to the diet. It is imagined by some persons, that during this condition a larger proportion of food is necessary than at any other time, the support and nourishment of the child demanding the

extra supply. This is a great mistake, and, when acted upon, is injurious to the health of both mother and offspring. Its origin, no doubt, is simply this:—if a woman ordinarily only takes food sufficient to nourish her own system, surely, it is said, when she is pregnant, the extra demand made for giving support to another must require an extra supply of nourishment. This conclusion, though it appears at first sight reasonable enough, will upon examination be found to be fallacious. For, in the first place, nature would appear to solicit a reduction in the quantity of aliment rather than an increase; for almost the very first evidence of pregnancy is the morning sickness, which would seem to declare that the system requires reduction rather than the contrary, or why should this subduing process be instituted? The consequences, too, which inevitably follow the free indulgence of a capricious, and what will afterwards grow into a voracious appetite, decidedly favour this opinion; for the severest and most trying cases of indigestion are by these means induced, the general health of the woman disturbed and more or less impaired, and through it the growth and vigour of the child, so that the means intended for its good become a source of direct injury. And, in the second place, Nature evidently points to another source from which she provides the demand, viz. in the suppression during pregnancy of the periodical discharge to which women are at other times subject; and which, it will be remembered, ceases for ever when the time for child-bearing has passed.

Dietetic rules for the early months.—If the general health was good before pregnancy took place, it will not be interfered with in the majority of cases by this event. No essential difference should be made

in the diet. Only let moderation and simplicity be observed, and the same kind of nourishment may be continued by which health was maintained previous to the occurrence of pregnancy.

If heretofore the general health has been delicate and feeble, and, as a consequence of pregnancy, becomes invigorated, the powers of digestion increasing, a larger supply of nourishment is demanded. Caution, however, must be observed as to quality and quantity, or even here disorder will quickly be produced.

On the other hand, if the stomach, from sympathy with the state of pregnancy, be rendered irritable, and the digestive power impaired, and the appetite as a consequence variable and capricious, not only must simplicity be observed in the kind of food selected, but great moderation in the quantity taken. The stomach must not have more put into it than it has power to digest. Rigidly to follow out these directions, however, and to resist the cravings of a disordered appetite, will demand all the self-control the patient possesses. But if she give her appetite the rein, and feed its waywardness, she will find such indulgence productive of the most serious consequences. Habitual indigestion is thus frequently occasioned, and the health of the mother so deteriorated as to give rise to a scrofulous constitution in the offspring. This fact cannot be too extensively known, since the generally received notion is, that it is only a parent actually suffering under a scrofulous habit of body who can impart it to her offspring. Let the diet, then, be light in kind, moderate in quantity, and not stimulant in its effects.

Rules for the latter months.—During the whole of this period care must be redoubled that too large a

quantity of food, or that which is unwholesome in quality, is not taken. This would not only very probably bring on vomiting, heart-burn, and constipation, and contribute, from the accumulation of impurities in the lower bowel, to the difficulties of labour, but expose the individual to consequences of a very serious kind after her delivery. If necessary, this point could be confirmed by one or two striking illustrations; but it is enough to state the fact. It must be remembered that the female is less able to take active exercise at this period; as a consequence she requires a less amount of food, and that which is more simple in quality.

Indeed, it sometimes happens that, although the health and appetite have been excellent up to this time, a great dislike to animal food of every kind, and under every form, is now experienced. And if such an individual be persuaded to eat it incautiously, she is sensible of much inconvenience. She prefers vegetable, fruit, and such articles of light digestion, which she finds may be taken without prejudice. Under these circumstances, let her adopt this diet; it is best for her. At the same time I would advise that, occasionally, but with due care, a little fresh meat or game should be taken.

Stimulants of all kinds at this period are generally hurtful. Indeed, from the increased activity in the system during the whole period of gestation, it will be frequently necessary to diminish, and even discontinue altogether, the stimulants in common use. Here I cannot refrain from throwing out a caution. Do not at any period of pregnancy be persuaded to endeavour to allay sickness, however distressing, or depression of spirits, however painful to bear, by the use of stimu-

lants, or even by medicine, if it be of a stimulating quality, unless professionally prescribed. I have good and weighty reasons for throwing out this caution, believing, as I do, that even the stimulating bitters so frequently had recourse to during pregnancy produce injury to the constitution of the child ; and fearing, as I always do, lest their employment should lead to the promotion of habits equally injurious, if not eventually fatal to the physical health and moral happiness of the parent. This practice has created the *solitary* drunkard. A painful and most distressing case of this kind was under my immediate notice for more than two years ; and death, solely from the effects of inebriety commenced under circumstances similar to those just referred to, prematurely terminated the life of a wife and mother. ‘The temptation,’ as Dr. Dewees very truly observes, ‘to take small portions of cordial or brandy, in the early months of gestation, is often very strong. The annoying sensations frequently experienced in the stomach, and the general uncomfortable feelings connected with them, are usually allayed or moderated for a time by the use of these potent stimuli. The unpleasant feelings, however, return, and recourse is again had to the assuaging but insidious stimulus ; and thus it is taken again and again, in still increasing portions, until the deplorable habit of solitary dram-drinking is formed.’ I believe the two grand causes of so many women among the lower classes giving birth to unhealthy and puny children, whose life, short as it is, is usually one of uninterrupted suffering, are insufficient food and spirit-drinking ; and, moreover, that the stimulant is the more injurious cause of the two. The frequent or habitual use of spirituous drinks is particularly apt to favour the

occurrence of miscarriage. 'In the course of my practice,' says Dr. Eberle, 'I have met with some very striking exemplifications of this fact. A lady, who after the birth of her first child became deeply imbued with this lamentable vice, aborted four times in succession. She then, by the earnest and unremitting exertions of her friends, seconded by her own efforts, succeeded in throwing off the habit of intemperance, and in the course of the following ten years gave birth to four children. These children, however, were remarkably feeble and sickly from their birth, and only one out of the four is now living—about six years of age, and manifestly of a very delicate and infirm constitution.'

I am sorry, in a work like this, to have felt it a duty to dwell so long upon this painful subject; and I have only further to observe, that those women invariably do best (all other things being equal) who pay a due regard to the regulations here laid down. They suffer much less during pregnancy—they usually suffer less during labour; and, after delivery, are less liable to those untoward symptoms which are the almost necessary result of a total disregard of all dietetic rules.

Sect. 2.—Longings

In reference to the *longings* of pregnant women for extraordinary articles of food, and on the supposed importance of gratifying them, it may be useful to make a few remarks. These cases, though by no means so common in the present day as formerly, occasionally fall under the notice of medical men. They are, doubtless, in many instances, the mere wilful fancies of the individual and nothing more; in other cases, however, they are the result of actual disease,

and disease, too, rather of the brain than of the stomach, and they demand careful and prudent management. For although, as has been elsewhere stated, an ungratified wish cannot impress an image of the thing longed for upon the child's body, still there is abundant evidence to prove that the indulgence by the mother in luxurious and unwholesome articles of diet not only injures her health, but seriously interferes with the growth and vigour of her offspring.

Dr. Dewees relates a remarkable instance of the injurious consequences to *the mother* of such indulgence. He says, 'We formerly attended a lady with several children, who was in the constant habit of eating chalk during her whole time of pregnancy; she used it in such excessive quantities as to render the bowels almost useless. We have known her many times not to have an evacuation for ten or twelve days together, and then only procured by enemata; and the stools were literally nothing but chalk. Her calculation, we well remember, was *three half-pecks* for each pregnancy. She became as white nearly as the substance itself; and it eventually destroyed her, by deranging her stomach so much that it would retain nothing whatever upon it.'¹

Again, Dr. Merriman gives the following striking example of the fatal effects of such indulgence upon *the child*:—'A young woman married to a gingerbread-maker took a fancy, during her first pregnancy, to chew ginger. The quantity of this spice which she thus consumed was estimated at several pounds. She went her full time, and had a favourable labour; but the child was small and meagre, its skin was dis-

¹ *Compendium of Midwifery*, p. 113.

coloured and rough, much resembling the furfuraceous desquamation that takes place after scarlatina. The child continued in an ill state of health for several weeks, and then died. She had several children afterwards, all healthy and vigorous. The inclination for ginger only prevailed with her first infant.¹

These cases, then, require medical superintendence; but the treatment will be of little avail unless the views and wishes of the medical attendant are seconded by the self-control of the patient, aided by the vigorous efforts of the friends of the party. Unfortunately, the individuals most liable to be thus affected are those who are constitutionally nervous, irritable, and delicate; who have always been accustomed to have their wishes gratified, and who all their lives have had little else to think about but themselves. Hence the cure is rendered the more difficult. These capricious appetites and fancies, however, must be firmly resisted; and far easier of accomplishment will this be if vigorously met when they first manifest themselves; for indulgence only increases desire, and every renewal of the gratification only aggravates the disease. Where they have been of long standing, the powers of the stomach will necessarily have become much weakened, and a most careful attention to diet will be demanded: the mildest and most easily digested food alone ought to be taken. Fresh air and exercise should be daily obtained, and all other measures resorted to which contribute to the promotion of the general health; but one of the principal points requiring the attention of the friends, is to secure the healthy employment of the mind of the individual.

¹ *Synopsis of Difficult Labour*, p. 32.

Sect. 3.—The Regulation of the Bowels.

However regular the action of the bowels prior to pregnancy, they will, in almost every case, be disposed to be costive after it has taken place. In the early months, this is supposed to arise from the increased activity going on in the womb. In the latter months, it doubtless proceeds in a great measure from the inability of the patient to take sufficient exercise; and in some cases also from the pressure of the now enlarged and expanded womb on the bowels themselves.

✓ The regular daily action of the bowels throughout pregnancy is of great importance. If they become positively constipated in the early months, there is great risk of miscarriage. If they become much loaded in the latter weeks, and the individual falls into labour with them in this condition, her labour will be protracted, its suffering and inconvenience much increased, and there will be a great liability to after-symptoms of an unfavourable kind.

✓ The best means of regulating them are, doubtless, those which are most natural. These include a proper attention to diet; regular and sufficient exercise; bathing, the shower-bath, sitz-bath, or daily ablution; early rising (the indulgence in the habit of lying in bed always predisposing to constipation); and great regularity in daily soliciting their relief, and at that time of the day when it would seem they are most disposed to act—viz. after breakfast. But notwithstanding a sedulous observance of these principles of health, they may fail to accomplish the object. Under these circumstances, remedial measures must be adopted; for a few hints about which, the reader is

referred to the section on Costiveness in the chapter on the Diseases of Pregnancy. As a good general rule, remember, however, that the more *gentle* the means employed, the more eligible they are, provided they answer the intention.

Sect. 4.—Exercise.

The error still prevails to some extent, that exercise at the commencement of pregnancy is prejudicial, and should be refrained from almost entirely; but that at the conclusion of gestation its employment is beneficial.

There is no doubt, where a predisposition exists to abortion, that even in the early months the utmost degree of care ought to be taken to avoid exciting or fatiguing exercise, and that the most perfect rest of body, for a longer or shorter period, is imperatively called for about the time when this accident previously occurred. But that women, as a general rule, should be encouraged to live more indolently (exercise being thought improper unless towards the conclusion of pregnancy, when it is supposed to procure a more favourable delivery), is an error exceedingly injurious. The fact is, a directly contrary method of proceeding is the most eligible and proper—exercise in the early months, with a gradual approach to a state of repose as the period of confinement approaches. ✓

During the first six or seven months frequent and gentle exercise in the open air, and domestic occupation, which requires moderate exertion, are very desirable; both have a beneficial influence on the health of the mother, and, through her, upon the child. The former invigorates health, and the latter contributes

by its regular return and succession of duties to employ her time, and thus, combined, insure that ease and serenity of mind so essential to happiness. Crowded assemblies, however, of all kinds, public spectacles, and large parties—in short, everything calculated to rouse strong feelings, to depress the mind, or excite the passions—ought to be sedulously avoided. From a neglect of this precaution, miscarriage is a very frequent occurrence among young married women of the present day, more particularly when they become pregnant for the first time; this accident arising not from any unavoidable and predisposing cause existing in the constitution, but simply from the mode of life indulged in. The visiting, the large dinner parties, immoderate dancing, late hours, and the like, so common in modern society, and often pursued night after night, by exciting and exhausting the system, produce this accident as the inevitable result. Scarcely a month passes in which a well-employed medical man does not meet with some instance in which abortion is threatened, or actually takes place, from this cause alone.

Were young women fully alive to the sad results arising from all this, a very different course would be followed. The fact, however, is, that miscarriage itself is much too lightly estimated. It is looked upon at the time of its first occurrence as comparatively harmless; and it is not until it has happened repeatedly that the serious evils arising from it become manifest. Let not the circumstance, then, of miscarriage producing no immediate apparent effect, blind anyone to the magnitude of the ultimate result; and let the young wife, especially, ever remember that repeated miscarriages, however imperceptibly they may affect

the constitution, do but too frequently ultimately ruin it. It may be safely affirmed that, from a want of the most ordinary care and prudence in the first years of married life, thousands have had the fairest promises of health and happiness blasted by the ill effects of this accident alone. The foundation of chronic disorders of a very painful kind, and of incurable disease of the womb itself, which manifest themselves in after life, is often laid in this way. Surely, then, after reading these remarks, it will not be thought too great a sacrifice to give up, immediately upon becoming pregnant, the indulgences I have referred to, and to substitute for them home duties and home pleasures.

On the other hand, let not the opposite extreme of excessive effeminacy be run into, for its effects are just as injurious. The young woman whose time is spent in indolence, continually reclining on a softly-cushioned sofa in the unwholesome atmosphere of an overheated apartment, who scarcely ever breathes the fresh and pure air—fearful even of putting her foot to the ground—and who yet, perhaps, at the same time indulges and pampers her appetite, is not likely, under such circumstances, to preserve her health, much less to improve it; in fact, it must suffer serious injury. Unfortunately, the evil will not stop here; for, by such improper and injudicious conduct, the nutrition and growth of the child must, as a natural consequence, be much interfered with, and when born, it will be feeble, perhaps emaciated, and will be reared with difficulty.

During *the last few weeks*, gentle and moderate exercise should still be taken in the open air, and it will be found of great service even up to the day of confinement, where this is practicable. We read in

the journals of the day, that under similar circumstances the highest personage in these realms is accustomed to take 'the early walk.' The happy effect of the general management in this case we are all well acquainted with and thankful for. This example should have, and will have, I doubt not, a beneficial influence. With some persons, however, walking is at this period attended with so much inconvenience, and so quickly with fatigue, that it is injurious instead of useful, and they must obtain the air in an easy and open carriage; for if it is shut up, the ride will do more harm than good. It will be necessary to give up domestic duties almost altogether; and the recumbent position must be resorted to, for two or three hours in the course of the day.

As a general caution to be observed throughout the whole period of pregnancy, I may again remark that every kind of agitating exercise, such as riding in a carriage with rapidity on uneven roads, or suddenly lifting or carrying any heavy weight, ought to be avoided; in short, all masculine and fatiguing employments whatever.

Sect. 5.—Dress.

Great errors in dress are sometimes committed by young women when they become pregnant for the first time. They do not accommodate their dress to their new situation, desirous (from mistaken feelings of delicacy) to conceal the fact from observation as long as possible: a great error, and sometimes productive of serious consequences. Some women err in the same way, but have not the same apology to offer for their folly. I refer to those who allow fashion to get the better of their judgment, and encase themselves in the tightly-laced corset to preserve their figure.

The *effects* of this practice are most serious. For months together the chest and abdomen are subjected to constant and forcible compression, and that during a period when nature is daily requiring more and more room for the gradual development of the child; and thus the healthy performance of the various functions of the organs of the mother's system is interrupted, and the regular and healthy nourishment of the infant is seriously interfered with. Hence the functional disorders with which such women are so grievously distressed during pregnancy, and hence also the reason why they give birth to such delicate, emaciated, and puny children. Not unfrequently this evil so deranges the general system as to cause miscarriage, at an earlier or later period.

Labour is also rendered by it more tedious and painful, the parts which have suffered from constant pressure becoming debilitated and incapable of co-operating in the important function of parturition. And, again, it has an injurious effect upon the breast, the glandular structure of which is sometimes so injured, and the nipple so compressed, as to render suckling a very difficult matter, or altogether impracticable.

Now, none of these evils need arise; and the young wife may, by using the proper precautions, avoid injury either to herself or to her expected offspring. The measures are simple enough. As in all probability she has been accustomed from her girlhood to wear corsets, it would not be wise, nor is it necessary, in order to obtain the object sought, to throw them aside; but they must be altered. They must have lacings over each bosom, so that they may be loosened or otherwise at pleasure. This is particularly necessary

when pregnancy occurs for the first time, as in such a case the breasts generally increase much in size, and sometimes with rapidity. Then they must have lacings on each side at the lower part for the same purpose; and as gestation advances, the unyielding steel blades, so commonly used, should be removed, and thin whale-bone substituted. With such an arrangement the corset can be let out from time to time, and adjusted to the gradual and increasing size of the individual, always remembering that what is required is the avoidance of pressure and the giving of due support. 'The Romans were so well aware of the mischief caused by compression of the waist during gestation, that they enacted a positive law against it; and Lycurgus, with the same view, is said to have ordained a law compelling pregnant women to wear very wide and loose clothing.'

When a woman has had many children, or only a few in quick succession, after the fourth month she will generally find great inconvenience from her increasing size; so much so, sometimes, as to be really unable to move about with any comfort. This arises from the abdominal muscles having lost their tone, or power of supporting the enlarged and enlarging womb. It is to be remedied by wearing, during the day, a belt, which will be found described in the chapter on Diseases of Pregnancy.¹ If a belt cannot be obtained, and it be cold weather, a broad flannel roller, seven or eight yards in length, rolled round the abdomen with sufficient firmness to give support, is a very good substitute.

The feet, as at all other times, so especially during

¹ See p. 98.

pregnancy, should be well protected. This is sadly neglected by women generally.

Sect. 6.—Bathing.

It will be naturally asked, Now that I am pregnant, may I continue bathing as heretofore? Most certainly. It is more than ever desirable. It will not only tend to invigorate health, but greatly promote comfort in all respects; and every woman who does not habitually employ it neglects a hygienic agent of great value.

There are certain general rules which should be always observed. The morning bath must be taken immediately on rising, while the surface of the body retains the warmth of the bed. Exercise from a quarter to half an hour, according to the powers of the patient, is necessary after this bath, and before and after all the other baths of the day, for the purpose of securing reaction, or the well-known delightful glow.

For want of attention to this rule, a chill is frequently felt while making the toilette, and injury rather than benefit accrues. Always walk first, and attend to the toilette afterwards. When coming out of the bath the body should be dried, not with towels, but by means of a large rough linen sheet (neither mangled nor ironed), in which the body must be enveloped. This excludes the external air, and is a protection against the chill which exposure might produce. With this the attendant as well as the patient must rub the body vigorously, using considerable friction, so as to insure a strong and glowing reaction. The assistance of an attendant is absolutely necessary to obtain the full advantage of any kind of bath.

The description of bath to be employed must be

regulated by the constitution and previous habits of the individual. *Sponging*, upon first rising in the morning, with cold water in summer and autumn, and with tepid water in winter, in both cases strongly impregnated with sea-salt, is perhaps more generally applicable than any other form of ablution, and may be continued with great safety and advantage throughout the whole period. It may be commenced, too, if not employed before, even during the pregnant state, provided tepid water is used at first, gradually reducing the temperature until it is quite cold. For this to be done expeditiously and thoroughly, a shallow bath should be used, in which the patient must sit; the water should be then briskly sluiced over the individual, with a sponge, for two or three minutes, and on coming out of the bath the body rapidly dried by means of the sheet. The fear of taking cold by this or any other mode of bathing, so frequently entertained, is altogether groundless; for, if it is effected quickly, it is unquestionably the best preventive, and diminishes the susceptibility to the impressions of cold.

The *shower-bath*, if it has been previously employed, may be continued, but never taken for the first time during pregnancy; the shock to the nervous system would be too great, and miscarriage might follow.

In reference to the use of the shower-bath, it is important to observe that, when first employed, it should consist of temperate salt water from 75° to 85° . It may be used for a week or ten days, and then the temperature be gradually reduced till the shock of the cold water can be borne. A foot-pan of warm water must be placed in the bath; this will lessen the shock, and promote reaction. From disregard to these pre-

cautions, this important aid is often pronounced injurious, and laid aside.

If of a vigorous and healthy constitution, and living on the coast and accustomed to *sea-bathing*, this may be continued for the early months, but *must never be commenced* either at the onset of pregnancy or during its progress, for fear of abortion. The best time in the day for bathing is two or three hours after breakfast, exercise being taken previously, but not to an extent to cause fatigue or perspiration. The patient ought to plunge in or be dipped suddenly, one or two dips at first; and after a time the stay may be prolonged from five to ten minutes. The body must be speedily dried. The use of the *sitz* or *hip-bath* will be found of great value by many. The *sitz-bath* is the ordinary hip-bath. It should contain from three to four inches of water, in which the patient sits, the water rising to about the navel. While in the bath the feet must be well clothed, and the person and bath enveloped in a blanket, which should be folded closely round the neck. Attention to the latter direction is especially essential; and, after the patient comes out of the bath, friction with rough flannels or towels must be resorted to. It is a means of health invaluable at this time, and especially to those who have been previously liable to any derangement of the uterine organs, maintaining their tone and vigour. Many of the transient but distressing sensations, such as bearing down, falling through, and such like, which so frequently accompany the early months of pregnancy, may be prevented when threatened, or removed when present by its employment; and while it gives temporary relief, its persevering use will be found to mitigate the suffering and to facilitate the act of labour. It should be taken,

✓ in addition to the morning bath, every day at noon. It should be commenced at a temperature of 65° , and gradually reduced to 55° , the patient remaining in for five minutes. If the symptoms alluded to should increase, the bath may be repeated at five o'clock in the evening.

✓ Much comfort will accrue in the warm summer months, and at all times in tropical climates, from the use of tepid affusion before the dinner hour. Let the individual sit in a shallow bath, and her servant either sponge her with water at 85° , or, what is still better, pour over her a couple of pails of water of the same temperature. This will be found not only to invigorate, but also to keep the body cool for the rest of the day. After any bodily fatigue or excitement, much refreshment may be obtained, and perhaps a more peaceful night's rest, by resorting to a sitz-bath at 85° for a quarter of an hour or twenty minutes before going to rest.

Sect. 7.—The Breasts and Nipples.

As observed in a previous section, all compression of the breasts and nipples, by the corset during pregnancy, more particularly during its latter period, must be carefully guarded against. The glandular structure of the breast is often, by this continual pressure, permanently injured, and the nipples so forced inwards, and buried in the substance of the breast, that suckling is greatly interfered with, and sometimes rendered altogether impracticable.

The nipples, especially in a first pregnancy, ought, during the six weeks prior to confinement, *to be prepared* for nursing. The skin covering them is gene-

rally so thin and sensitive, that the child's lips and tongue in the act of sucking soon make them tender and excoriated; and if this sensibility be not diminished, and the delicate skin rendered thicker and more callous before labour comes on, nursing will in many cases be necessarily given up very soon after.

The plan to be adopted is simple enough. Flannels, or any thick covering that is ordinarily worn immediately over the nipples, must be laid aside. Daily, upon rising and going to rest, each nipple must be washed, either with green tea, or the infusion of oak or pomegranate bark, and, having been carefully dried, must be exposed to the air for eight or ten minutes, and rubbed gently during this time with a piece of soft flannel.

If the skin of the nipples is very delicate and sensitive, and the above applications do not effect the object, the following lotion may be substituted: *thirty grains of sulphate of zinc to eight ounces of rose water; mix.*

These means must be regularly and perseveringly employed up to the day of confinement, and will generally accomplish the object desired—the prevention of sore nipples.

If the nipples are very small, short, and consequently sunken in, besides the means pointed out for hardening the delicate and sensitive skin covering them, *they should be drawn out.* A glass instrument,¹ made somewhat in the shape of a tobacco-pipe, invented and ordinarily used for drawing the milk from an over-distended breast, may be employed for this purpose; it is placed over the nipple and held firmly

¹ Vide fig. 6, p. 206.

1 gill brandy
3 bottles. per hour

in place, traction with the mouth is then made through the tube, and the nipple will be seen and felt to be 'sucked into' the glass shield. Or Maw's nipple protector and developer may be tried. This useful little appliance

FIG. 2.



is made of ivory, as figured opposite. It protects a sore nipple and keeps it cool : and is also of great service in developing one which is naturally small, or which may have been *pressed in* by too tightly-fitting dress. This instrument may be worn, for a month previous to the confinement, beneath the ordinary clothing. Or a breast-pump may be used. Whatever mode, however, is adopted, it must be commenced early, and must be repeated daily until the nipples are considered sufficiently prominent to allow an infant's mouth easily to grasp them.

Sect. 8.—Mental Influence.

Many women suppose that the condition of the mind of the mother has no influence upon the physical or mental constitution of the unborn child, and that violent passion, long-continued anxiety, sudden fear, and the like, are in no way productive of serious consequences. Others, running into an opposite extreme, firmly believe that the imagination of the parent is capable, not merely of affecting the general constitution of the child, but of exercising a direct and extraordinary influence upon its structure and symmetry. I think it may prove useful to say a few words upon both of these errors, as I have known much mischief to arise out of them.

1. The injurious Influence of Mental Disturbance.
—Tranquillity and cheerfulness of mind are at all times

highly favourable to the healthy and regular operations of the animal economy. Observation and daily experience prove the fact, that any serious mental disturbance to which the mother may be exposed during the pregnant state, will tell upon the future constitutional vigour and mental health of her offspring. A sudden gust of passion, or indeed any violent mental emotion, will sometimes be followed by an *immediate* effect upon the system ; and convulsions, hæmorrhage, or a miscarriage may ensue. But where there is habitual indulgence in a life of excitement, or some cause of a depressing character constantly operating upon the system of the mother, the constitution of the child, both mental and physical, will almost invariably suffer. The predisposition which some children manifest to convulsions and head affections, during infancy and childhood, very frequently has its origin in the foregoing causes ; and such cases are continually coming under the eye of the medical man. These facts point out the great importance of protecting the pregnant woman from all circumstances likely to create disturbance of her nervous system, and ought also to make *her* doubly careful that she does not incur any risk or hazard that might be productive of consequences of a similar description. A calm and equable temper, a life of quiet cheerfulness and active duty, are most conducive not only to the health of the parent, but to that of the offspring also. This cannot be too strongly borne in mind.

I may here just mention, as an instance very much to the point, that very recently I was consulted by a respectable woman about an unhealthy-looking child that she brought to me, born prematurely between the seventh and eighth months. The mother's mind was

greatly depressed during her pregnancy from the 'worry' (as she expressed it) of her husband—a man of kind disposition naturally, but whose mind was so taken hold of by the idea that if he had so many children he should not be able to support them, that his wife had no peace day or night from this cause—a feeling, on the part of the husband, entirely morbid in its character, since his circumstances were not only above want, but very respectable. In consequence of this mental harass and disturbance, she was confined shortly after the completion of the seventh month. The child born was puny and fretful, and continues so. It is now eight months old, a wasted miserable-looking object, the picture of woe. Its mother says it never smiled until it was four months old, and rarely smiles now. The head is large, much larger than it ought to be, even making allowance for the wasted condition of the frame generally. Having carefully investigated the history of this case, I felt convinced that the whole mischief was clearly traceable to the mental disturbance to which the parent had been subjected. Her previous children were vigorous and healthy.

Pregnancy occasions in some women, in the early months, a very excitable state of their nervous system, yet without disease. In consequence of this continued irritation, the temper of such persons is sometimes rendered less gentle and patient than is consistent with their usual character. One of the most naturally amiable and sweet-tempered women that I am acquainted with, is always thus affected when pregnant; and, long before there is any visible or outward sign, by her alteration of manner and morbid irritability of temper, I can always assure myself that pregnancy has taken place. This claims a kindly regard and forbear-

ance from a husband and friends ; and it is right, therefore, that they should be acquainted with the true cause of it. I have known much domestic disquietude to arise from an ignorance of this fact.

2. The supposed Influence of the Imagination of the Mother upon the Child in the Womb.—This error is still extensively current ; and, though reason and experience concur to refute the notion of any direct influence, it is received by many as an established truth, and tends more than any other delusion of the mind, during the pregnancy, to render the female wretched. Should a woman have an ungratified longing for some particular article of food—should she have been suddenly and seriously frightened, or accidentally the witness of some miserably deformed object—she at once becomes possessed with the belief that her unborn babe will receive some mark, blemish, or deformity—something similar to the thing longed for, or which has caused her alarm or excited her aversion. From the time of this occurrence, the idea haunts her imagination night and day ; a victim to the influence of an evil called into existence by her own fancy, she is wretched and miserable. Ashamed of her own weakness, she imparts her secret to none ; she will hardly confess it to herself ; yet its impression deepens upon her mind, and she looks forward to the period of her confinement with the greatest dread and apprehension. Thus the whole period of pregnancy is made a season of needless trial and suffering ; and nothing pacifies her mind, or can remove her fears, but the birth of an unblemished and healthy child.

The origin of this belief in the power of the imagination during pregnancy is coeval with our earliest records ; and the multitude of instances handed down

to us, in which its influence was supposed to be exerted, would fill a large volume.

The various deformities said to be produced in the body of the infant by this supposed powerful agent are the following :—It is affirmed to impose upon its skin certain resemblances to things on which the fancy has been busily occupied, such as fruit, wine, insects, or animals ; to produce additional parts, as an increased number of limbs, toes, or fingers ; to destroy certain parts of the child's body, as a leg, or arm, or both ; and to cause what is called hare-lip.

The most common of these deformities are the first—the marks and moles on the skin. The former, generally of a red or purplish colour, are said to resemble different sorts of fruit—such as raspberries, strawberries, mulberries, and cherries ; and if a child is born with such a discoloration or mark on the surface of its body, it is frequently ascribed to the disappointed longings of the woman, during her pregnancy, for the particular fruit which the mark is declared to resemble. The latter—the moles—being covered with a downy hair, are compared to the skin of a mouse, mole, or some other animal ; and their presence is referred to some agitation of mind occasioned by one of these objects running in sight of or against the individual while pregnant.

It would be easy to cite very many cases that are on record of these 'discolorings of the skin—such as redness, from women longing for claret, or having it suddenly spilt upon them ;' of marks 'of foods desired but not obtained ;' of 'excrescences which, like the fruits they resemble, have their times of bloom, ripening, and languishing, though never quite dying or falling off themselves,' &c. &c. Here, too, might

be adduced a variety of the most extraordinary cases of deformity which have been very gravely related by our forefathers; and commented upon, believed in, and added to, by a few authors even of our own day. Books abound with such statements; but their detail would only be a waste of time. I will mention, however, one case of deformity, from a deficiency of the child's body, because I believe the fact to be true (but then not brought about after the fashion which its author supposed), and because I think this illustration will serve to show the *absurdity* of the supposition. The case is related in a work published in London in 1723, by Dr. Turner, entitled 'De Morbis Cutaneis.' Speaking of a man greatly deformed, he says: 'But of this kind we have a sad instance at home (I mean in the city), in a child of Sir J. B——'s. His lady, when advanced five or six months in her pregnancy, was so frightened at the unexpected view of a beggar's stump arm upon the coach door, that the child of which she was afterwards delivered was born wanting one of his hands, the stump resembling that of the beggar.' Dr. T. adds: 'How these strange alterations should be wrought, or the child cut, wounded, or maimed, as if the same was really done with a weapon, whilst the mother is unhurt, and merely by the force of the imagination, is, I must confess, above my understanding; but it is a fact undeniable.'

Now let us for one moment consider what an operation must have been performed to work this effect, to produce this 'fact undeniable!' The child was some months old when deformity was said to be produced. It is presumed it was of the natural and perfect form, and must therefore at this period have been considerable in size, and the arm itself not small. This arm,

then, must drop off by the power of the imagination ; there must be no blood lost to endanger the life of the child ; and the wound must be healed before the birth. This would seem improbable enough ; but, admitting that the limb could drop off by the force of the mother's fancy, and that some cause could put a stop to the bleeding from the stump after the separation of the hand from the body, still the limb must remain in the womb until the delivery, and the bones at least could not putrefy or waste away, although the flesh might. But is it stated in this case, or pretended in any other of a like kind, that any part of the deficient limb was found by the medical attendant, nurse, or by anybody else? Never. We hear nothing of the decayed hand, either in this or in any similar case we may be curious enough to investigate.

There can be no doubt that deformity existed at birth in the case just quoted ; but then the infant was deformed from other causes (well understood by medical men) months before the mother's alarm, and altogether unconnected with it.

Again, with respect to marks, moles, and other blemishes in the skin, take the evidence of one who was the first physiologist, anatomist, and physician accoucheur of his day, the late Dr. William Hunter, who investigated the subject at the lying-in-hospital to which he was attached. In every one of 2,000 cases of labour, as soon as the woman was delivered, he inquired of her whether she had been disappointed in any object of her longing, and, if she replied in the affirmative, what it was ; whether she had been surprised by any circumstance that had given her any unusual shock, and what that consisted of ; whether she had been alarmed by any object of an unsightly

kind, and what that was. Then, after making a note of the declarations of each woman, either in the affirmative or negative, he carefully examined the child; and he affirms, that he never in a *single instance* of the 2,000 met with a coincidence. He met with blemishes when no cause was acknowledged, and found none when it had been insisted on.

The result shown by this patient and searching investigation of Dr. Hunter must surely satisfy any reasonable mind; and it must be unnecessary to add more. In conclusion, however, I would ask, why should we be surprised at some irregularities on the skin, and other parts of the human body, since we see the same thing occurring daily throughout the animal and vegetable world? They have their moles, their discolorations, their excrescences, their unnatural shapes, which it certainly would not be very philosophical to ascribe to any effort of the imagination! An eminent and clever man thus writes to his patient, a married lady:¹—

‘Those who have been attentive to their poultry will inform you that chickens are as liable to a preternatural structure of their organs as children. Now, the egg, in order to be hatched, is placed under the hen, the heat of whose body gives motion to the fluids which nourish the chick till it becomes sufficiently strong to break the shell, when it is produced with a claw extraordinary, or any other preternatural appearance to which chickens are liable. Now, in this case, the extraordinary claw, if we take this instance for our argument, must either have been formed in the moment of conception, or have been added at some

¹ *Gentleman's Magazine* for October 1764

period afterwards, when we suppose the hen to have been under the influence of some powerful imagination. If you grant that the chick was originally formed in this shape, it follows, from the rules of analogy, that all preternatural births have the same cause. If not, the fancy of the hen must have operated through the shell to work the effect. I flatter myself that this is too marvellous and absurd a notion to gain much credit from a woman of good sense. If, however, you still have a secret persuasion that the hen may (in some wonderful manner, you know not how), while she is sitting, affect the chick or the egg, so as to alter its frame, know for a certainty that eggs hatched in dunghills, stoves, and ovens, produce as many monstrous births as those which are hatched by hens : which, I should imagine, proves irrefragably that the chick is produced in the very shape in which it was formed.'

This illustration at least seems to show how entirely unphilosophical and absurd are the views entertained on the subject before us.

Such are the errors, connected with pregnancy, which I have thought it might be useful thus briefly to notice. I have known them to be a source of much mental distress and physical suffering; and if these few observations expunge them from the list of evils always supposed by many as necessarily connected with the pregnant state, I shall exceedingly rejoice, convinced that it is a process which ought not to be regarded with fear or anxiety.

Such, too, are a few of the directions which I would offer to the young and inexperienced married woman for the management of her health at this important and interesting period of her life. I offer them

in the confident belief that their adoption will have a decided and most beneficial influence upon her own health, and with a strong conviction that hitherto, from an indifference to or total neglect of these means, much misery and suffering have arisen. I would press their observance, too, upon her, from the remembrance of the fact already so often referred to—that on her judicious conduct while pregnant a vigorous constitution on the part of the child much depends; and to her neglect a feeble frame may in a great measure be attributed.

I have only one more suggestion to make. Engage your future medical attendant early. You will then be able to seek his direction and guidance in every doubt that may arise, and, confiding your fears and anxieties to him, will derive from his experience and knowledge that rational and kindly explanation of your difficulties which may instantly dispel them.

CHAPTER II.

*OF THE MODE BY WHICH PREGNANCY
MAY BE DETERMINED.*

THERE are certain signs which a female is taught to regard as essential evidences of pregnancy; and it is supposed by most, if not by all women, that their presence is absolutely necessary to the existence of this state. In reference to one or two of these signs, this is far from the fact; for they are not unfrequently absent although pregnancy exist, and the remainder may be present although pregnancy be absent. Many a woman, I am confident, has from this very circumstance experienced much difficulty in attaining certainty as to her state, and suffered months of anxiety and doubt. This has arisen from a want of those clear notions, and that precise information, which a question so important demands.

The object of this chapter is to remove this difficulty, by presenting a short account of those symptoms of conception which the female may herself observe, and to point out to what extent they may be relied on. It will be necessary to notice only *four* of the signs or symptoms of pregnancy; and they may be considered in the order in which they usually arise: *i.e.* ceasing to be unwell; morning sickness; shooting pains through, enlargement of, and other changes in, the breasts; and, lastly, quickening.

Sect. 1.—Ceasing to be Unwell.

The first symptom of pregnancy is that omission of the regular monthly return which, in female phraseology, would be described as ‘ceasing to be unwell;’ and it may be adopted as a general rule, that in a healthy woman whose menstruation has been established and continued regular, and who is not nursing, ‘conception is followed by a suppression of the menstrual discharge at the next return of its period.’ Thus, a female may have been pregnant a week or two already; but she is not aware of it till that period of the month arrives when she is accustomed to menstruate; and then, when she expects to be unwell, she finds that she is not so.

Now this symptom, as a general rule, admits of four exceptions:—a young woman may never have menstruated and yet conceive; a mother may conceive while she is nursing, and not menstruating; a woman may conceive, and yet be unwell during the first three, four, or more months of pregnancy; and, lastly, occasionally conception takes place late in life, after menstruation has apparently ceased for ever

First Exception.—Many cases are on record proving this point. I have met with only two cases: one was quite a girl, not having arrived at her seventeenth year, and yet was in her sixth month of pregnancy when she applied for a letter for the Finsbury Midwifery Institution; the other was in her nineteenth year. Menstruation was, subsequent to confinement, established in the first; with the result of the latter I am not acquainted.

Another instance is mentioned by Morgagni:—‘I

was acquainted,' he says, 'with a maiden of a noble family, who married before menstruation took place, though the menses had been expected for some years; nevertheless she became exceedingly fruitful. We were the less surprised at this circumstance, because the same thing had happened to her mother.'

Another instance is recorded in the 'Philosophical Transactions' for 1817, of a young woman who bore two children successively without any previous menstruation, which function did not commence till after the third pregnancy, which ended in a miscarriage.

Frank attended a patient who gave birth to three children without ever having been unwell. Capuron, also, refers to several cases of this description.

Although pregnancy under such circumstances is not of frequent occurrence, still it does now and then take place. A knowledge of the fact may therefore prove useful.

Second Exception.—It is scarcely necessary to advert to the well-known fact that a woman may conceive whilst she is nursing, without any previous return of the monthly discharge, except to expose the popular error, 'that a female will not become pregnant during lactation.' This is very far from being the case. Poor women are much in the habit of nursing their infants eighteen months, two years, and even longer than this, in order to protect themselves, as they imagine, from becoming pregnant; and many a poor creature have I seen with exhausted frame and disordered general health, from nursing having been protracted on this mistaken notion.

I have large opportunities of investigating this as well as the several points touched upon in this chapter. On an average, between forty and fifty poor women call

upon me every month, with midwifery letters for attendance in their confinement ; and the result of my inquiries upon the present question has led me to believe that more than one-third of these women have conceived at least once while nursing, and very many of them oftener.¹

Mrs. M., *ætat.* 30, married six years. Became pregnant three months after her marriage. Having suckled this child for more than two years, became pregnant a second time. This last died in three weeks ; and immediately after, she proved pregnant for the third time. The third child she brought this morning (being out of health), and assured me that she had not seen anything since she first conceived, *i.e.* three months after her marriage, and six years from the present time.

Mrs. W., *ætat.* 25, married five years. Has not been unwell since she first fell in the family way ; is now pregnant with a third child, having hitherto fallen pregnant always whilst nursing.

Many other cases illustrative of this fact I might insert ; but these suffice to prove the exception. I may just add, however, that Mr. Robertson, of Manchester, inquired very minutely into the results of 160 cases, in which he found that eighty-one women had become pregnant once or oftener during suckling.

Third Exception.—That a woman should become pregnant, and yet be unwell during the first three, four, or more months of pregnancy, may appear an extraordinary statement ; but it is a fact that the menstrual discharge sometimes continues in its usual regularity for two, three, or more months after conception, and without any dangerous consequences.

It has been asserted, as an objection, that this dis-

¹ The following cases, as well as others, are extracted from my note-book.

charge is not truly menstruation ; but the discussion of that question does not concern us here. We have only to consider whether, during pregnancy, a discharge does not take place so closely resembling menstruation in its periods, quantity, duration, and appearance, that neither the patient herself nor her medical adviser shall be able to detect any difference between them ; and of this I have no doubt.

It may occur *once* only after conception, either in diminished quantity, or more profuse than usual. It may thus give rise to miscalculation as to the expected time of confinement.

It may continue in its usual regularity for *two* or *three months*. The following instance of a patient I attended illustrates the fact of its going on to the period of quickening :—

Mrs. R., ætat. 27, married eight years. Was first unwell when eighteen years of age, and continued to be so regularly until she became pregnant, two years from the time of her marriage. She suckled her first child for eleven months ; soon after became unwell, and continued so until she quickened with her second child—a circumstance which she had not the slightest suspicion of, for there was no perceptible difference either in the quantity or appearance of the monthly discharge. During the remaining months of gestation she did not see anything ; she afterwards suckled her little one for ten months, and then was obliged to wean the child, having an attack of cholera. She continued from this time regular for two years ; but meeting with a fall, much to her surprise, two or three days after miscarried of a four months' child. She is now pregnant again, having been regular every month till she quickened, and expects to be shortly confined.

In the above case, then, this woman was unwell in two pregnancies till the period of quickening ; and in the other pregnancy for four months, when miscarriage took place from accident.

And, lastly, it may occur through the *whole* period of pregnancy.

Mrs. F. is now pregnant for the third time. In her first pregnancy the monthly returns appeared for three periods regular as to time, and in quantity and appearance as heretofore. During the second child-bearing, at every month till confinement. During the third—her present pregnancy—for three months only. This patient is always unwell whilst nursing.

Mrs. J., now in her eighth pregnancy, was unwell every month throughout the first six pregnancies; the quantity, however, was always slightly diminished. In the seventh, the same circumstance occurred; but premature labour was this time induced, between the sixth and seventh months, by a fall. During the present pregnancy she has not seen anything. Is always unwell whilst suckling.

Mrs. P. is in her fourth pregnancy. In the first three was unwell, at her regular periods, to the time of confinement. The discharge the same in quantity, but of rather lighter appearance. Has been unwell in her present pregnancy every month up to the present time.

Dr. Heberden, in his Commentaries, mentions that he was acquainted with a lady who never ceased to have regular returns of the menses during four pregnancies; quite to the time of her delivery. This opinion is confirmed by Gardien, Dewees, Hamilton, Desormeaux, Puzos, and others.

The following case proves how important it is that this fact should be generally known, for, up to a very late period, some medical men have even denied the possibility of this occurrence.

The case I refer to was that of a young lady privately married, the gradual enlargement of whose abdomen was decided by her medical attendant to arise from dropsy; for although she had most of the symptoms of pregnancy, and the medical man was aware she had been married eight months,

still, as *she continued to menstruate*, he declared it impossible that she could be pregnant. Tapping was proposed; and, except that her general health suffered much at this time, the operation would have been performed. The delay saved the patient such unfortunate and mistaken treatment—it might have proved fatal in its results—and she shortly gave birth to a living and healthy male child.

Fourth Exception.—That women late in life have conceived after menstruation had apparently ceased for ever, the following cases prove.

I was called to the assistance of a female in labour in her 49th year. She had not been pregnant for twelve years, and supposed she had ceased to menstruate two years previous to the labour referred to. She did well, and never afterwards saw anything.

Mrs. B., ætat. 39. Has been married eighteen years; commenced to be unwell very early in life. Has had three children; the last pregnancy seven years since. Is now again pregnant, her menses having left her sixteen weeks prior to conception, before which she had been very irregular, and supposed she had ceased to be unwell for ever.

Other cases of a similar nature are on record. There can be no doubt they are authentic; but at the same time it must be acknowledged that a woman is not unlikely to be deceived by the irregularity which attends the returns of this discharge late in life. It so happens, too, that just before the change of life takes place there appears in the constitution of some women a great disposition to pregnancy; so that many who have ceased to bear children for years, or have been hitherto barren through the whole of their married existence, at this time, to the surprise of their friends and themselves, become pregnant.

‘A woman came to me one morning,’ says Dr.

Gooch, 'with a note from a medical man, containing the following statement:—"The patient's age was forty-two; she had been married twenty-two years without ever being pregnant. About seven months ago she had ceased to menstruate; a few months afterwards the abdomen began to enlarge, and was now nearly equal to that of a full pregnancy. For several months the practitioner had been using various means for reducing the tumour, but in vain. I examined the case, pronounced her pregnant, and seven weeks afterwards she brought forth a child at the full time."'

Dr. Montgomery says: 'A lady in her forty-third year, who was married to her present husband twenty years ago, remained without any promise of offspring until within the last few months; but, having missed her menstruation in September last, and finding her size increasing, I was requested to see her in January, when she exhibited evident symptoms of pregnancy. She was subsequently delivered of a healthy boy, after a natural labour of about four hours.'

Mosse, one of the medical officers of the Dublin Lying-in Hospital in 1775, states that eighty-four of the women delivered in the institution under his superintendence were between the ages of forty-one and fifty-four; four of these were in their fifty-first year, and one in her fifty-fourth.

In May 1816 Mrs. Ashley, wife of John Ashley, grazier, of Frisby, near Spilsby, at the age of fifty-four years, was delivered of two female children.

The succession to an estate was disputed in France because the mother was fifty-eight years old when the child was born. The decision was in favour of the fact.

A knowledge of these facts must be useful, as they will tend to allay apprehension at what might be sup-

posed disease, both by the mother and by the hitherto childless woman.

It must not be forgotten, however, that a woman may mistake her condition, and that such mistakes are not at all unlikely to arise from the circumstance that the symptoms which naturally accompany the *cessation* of menstruation much resemble those of pregnancy. She passes over the menstrual period; she is struck with this. Other symptoms are soon manifested; the size increases; the breasts even become swollen and painful, the stomach disordered, and the appetite capricious; flatulence collects in the intestines; and whilst on this account the size still increases, the air moving about the bowels gives an inward sensation which is mistaken by the female for the plunging of the child. Time alone, or the investigation of the medical attendant, detects the mistake; and the symptoms are then to be easily removed by the employment of carminative and purgative medicines, the use of active exercise, and bandaging the distended abdomen.

It must be remembered also, that *suppression* of the monthly return may arise from a variety of causes, altogether independent of conception. Every woman is aware that exposure to cold just before the expected period is a frequent cause. Different forms of disease, hardships, or mental emotions, may produce the same result. It does not follow, therefore, because menstruation ceases, pregnancy *must* exist; which naturally presents the inquiry, what dependence is to be placed upon the omission of menstruation as a symptom or sign of pregnancy? It is thus far to be depended upon:—When a woman ceases to be unwell, and experiences other symptoms of pregnancy, she must con-

sider her situation as yet uncertain, because these signs are common to disease as well as pregnancy. But if towards the third month, while the suppression continues, she recovers her health, and if her appetite and colour return, she needs no better proof of pregnancy ; for under other circumstances her health would remain impaired, and even become worse.

Sect. 2.—Morning Sickness.

Soon after conception the stomach often becomes affected with what is called ‘morning sickness.’ On first awaking the woman feels as well as usual ; but, on rising from her bed, qualmishness begins ; and perhaps, whilst in the act of dressing, retching takes place. This symptom may occur almost immediately after conception ; but it most frequently commences for the first time between two and three weeks after. Now and then it is experienced only the last weeks or two months of pregnancy, when it is attended, generally, with much distress and discomfort. And, lastly, it is not unfrequently absent altogether. It continues, more or less, during the first half of pregnancy, and subsides about the time when the movements of the child begin to be felt.

Irritability of the stomach, however, may arise from a variety of causes totally independent of pregnancy, and connected with disease or disordered function. Of what avail, then, it will be asked, is this symptom as a sign of pregnancy ? It is so far available :—The nausea and vomiting of pregnancy is not accompanied by any other symptom of ill health, but, on the contrary, the patient feels as well as ever in other respects, and perchance takes her meals with as much appetite

and relish as formerly ; but while doing so, or immediately after, she feels suddenly sick, and has hardly time to retire, when she rejects the whole contents of the stomach, and very shortly after is quite well again. Not so with sickness arising from disease or disordered condition of the stomach.

Sect. 3. — Shooting Pains through, enlargement of, and other Changes in the Breasts.

When two months of pregnancy have been completed an uneasy sensation of throbbing and stretching fulness is experienced, accompanied with tingling about the middle of the breast, centring in the nipple. A sensible alteration in its appearance soon follows ; it grows larger and more firm. The nipple becomes more prominent, and the circle round its base altered in colour and structure, constituting what is called ‘the areola.’ And as pregnancy advances, milk is secreted.

The period of gestation at which these changes may occur, as well as the degree in which they become manifested, vary very much. Sometimes, with the exception of the secretion of milk, they are recognised very soon after conception ; in other instances, particularly in women of a weakly and delicate constitution, they are hardly perceptible till pregnancy is far advanced, or even drawing towards its termination.

Enlargement of the Breast.—The changes in the *form* and *size* of the breast may be the result of causes unconnected with pregnancy. It may enlarge in consequence of marriage, from the individual becoming stout and fat, or from accidental suppression of the monthly return. There are, however, these differences :

enlargement from pregnancy may in general be distinguished from that produced merely from fat by the greater firmness of the breast, and its knotty, uneven feel ; it is heavier ; and from the tension and enlargement from suppressed menstruation, by the latter subsiding in two or three days, whereas that caused by pregnancy continues to increase. Nevertheless, the dependence which may be placed upon the enlargement of the breast only, as an evidence of pregnancy, is not very great, and considered alone is but a doubtful sign.

The Nipple.—Not so the changes which take place in the nipple, and around its base. These alterations, if present, are of the utmost value as an evidence of pregnancy. The changes referred to are these :—About the sixth or seventh week after conception has taken place, if the nipple be examined, it will be found becoming turgid and prominent, and a circle forming round its base, of a colour deeper in its shade than rose or flesh colour, slightly tinged with a yellowish or brownish hue ; and here and there upon its surface will be seen little prominent points, from about ten to twenty in number. In the progress of the next six or seven weeks, these changes are fully developed, the nipple being more prominent and turgid than ever ; the circle around it of larger dimensions, of an extent of about an inch or an inch and a half ; the skin being soft, bedewed with a slight degree of moisture, frequently staining the linen in contact with it ; the little prominences of a larger size, from the sixteenth to the twelfth of an inch, perhaps ; and the colour of the whole very much deepened, but always modified by the complexion of the individual, being darker in persons with black hair, dark eyes, and sallow skin,

than in those of fair hair, light-coloured eyes, and delicate complexion. Such are the essential characteristics of the true areola, the result of pregnancy, and, I believe, of that condition only.

This, then, is a most valuable sign ; but, unfortunately, it is frequently absent. It should also be observed that, both in dark and fair women, the change of colour, without the other appearances, may be present, and yet pregnancy exist ; and I have also seen frequently the dark circle alone, where pregnancy did not exist ; but I never saw an instance where these prominences were truly developed, without the presence of pregnancy.

This fact has been more particularly noticed of late years, and the attention of the author has, in consequence, been much directed to it ; and, as a striking illustration of its truth, he may mention that, being called upon very recently to visit one of the Institution patients the third day after her delivery, and having occasion to examine the breast, he pointed out to the gentleman in attendance the presence of these little prominences around the base of the nipple ; upon which the patient, to his great surprise, immediately observed, ‘ Ah, sir, I always know when I am pregnant by them ; for they appear about ten days or a fortnight after its occurrence, and, subsequent to delivery, diminish gradually, as my milk leaves me.’

It has occurred to me during the past year to be consulted in five cases of doubtful pregnancy. In *two* of them, circumstances forbade the probability of its occurrence ; but in both the true areola was distinctly and fully developed. It decided my opinion ; and the result proved its correctness : both became mothers. *Two others* had made themselves patients of the Lying-

in Institution, having obtained letters for attendance from governors of the charity, and upon which was marked, by their own calculation, the month of their expected confinement. But I was led to believe, from observing two or three symptoms, that pregnancy did not exist. Their cases were examined, and at last the breast: in both the true areola was wanting; the review of symptoms decided all doubts. Had, however, the true areola been present in either, it would at once have reversed, instead of confirming, my first suspicions. The *fifth* was pregnant, but the true areola wanting, and I was obliged to refer to those signs which can alone be recognised by a medical man.

The absence, then, of this sign, except in combination with other circumstances, proves nothing; but, if present, I think it conclusive.

The Presence of Milk.—With regard to the presence of milk in the breast, as this is a symptom which may arise, and does very generally in the latter months of gestation, when the existence of pregnancy has been long determined, it is only mentioned here to refute the popular error ‘that the presence of milk in the breast is an infallible proof of pregnancy.’ It certainly is not; and many well-recorded instances could be brought forward to prove the possibility of its formation under circumstances totally independent of pregnancy.

Belloc speaks of a servant-girl who, being obliged to have sleeping with her an infant who was being weaned, and which by its crying disturbed her rest, bethought her of giving it her breast to appease its clamour; and the result was that in a short time she had milk enough to satisfy the child.¹

¹ Cours de Méd. Légale, p. 52.

The following case is related by Mr. George Semple :—‘ Mrs. B., wife of John B., aged forty-nine, the mother of nine children, the youngest of whom is twelve years old, lost a daughter-in-law about a year ago, who died in about a fortnight after giving birth to her first child. On her death Mrs. B. took charge of the infant, a little, puny, sickly baby. The child was so fretful and uneasy that Mrs. B., after many sleepless nights, was induced to permit the child to take her nipple into its mouth. In the course of from thirty to thirty-six hours she felt very unwell, her breasts became extremely painful, considerably increased in size, and soon after, to her utter astonishment, milk was secreted, and poured fourth in the same abundance as on former occasions after the birth of her own children. The child, now a year old, is a fine, thriving, healthy girl; and only a few days ago I saw her eagerly engaged in obtaining an apparently abundant supply of healthy nourishment from the same fountain which, nearly twenty years ago, poured forth its resources for the support of her father.’¹

From the above, and other recorded facts, there can be no doubt that milk may be secreted in the female breast independent of pregnancy; but the following beautiful exemplification of its formation in that of the *male* places the question in a still stronger light. This interesting fact is cited from Captain Franklin’s Narrative of his Journey to the Shores of the Polar Sea :—

‘ A young Chipewyan had separated from the rest of his band, for the purpose of trenching beaver, when his wife, who was his sole companion, and in her first pregnancy, was seized with the pains of labour. She

¹ *North of Eng. Med. and Surg. Journ.* vol. i. p. 230.

died on the third day after she had given birth to a boy. The husband was inconsolable, and vowed in his anguish never to take another woman to wife; but his grief was soon in some degree absorbed in anxiety for the fate of his infant son. To preserve its life he descended to the office of a nurse, so degrading in the eyes of a Chipewyan, as partaking of the duties of a woman. He swaddled it in soft moss, fed it with broth made from the flesh of the deer, and, to still its cries, applied it to his breast, praying earnestly to the Great Master of Life to assist his endeavours. The force of the powerful passion by which he was actuated produced the same effect in his case as it has done in some others which are recorded: a flow of milk actually took place from his breast. He succeeded in rearing his child, taught him to be a hunter, and, when he attained the age of manhood, chose him a wife from the tribe. The old man kept his vow in never taking a wife for himself; but he delighted in tending his son's children; and when his daughter-in-law used to interfere, saying that it was not the occupation of a man, he was wont to reply that he had promised the Great Master of Life, if his child was spared, never to be proud like the other Indians. Our informant, Mr. Winkel (one of the Association), added that he had often seen this Indian in his old age, and that his left breast, even then, retained the unusual size it had acquired in his occupation of nurse.'

Man possesses the same organisation as woman for secreting and conveying milk, which enables us readily both to understand and believe in the truth of the foregoing singular statement.

Sect. 4.—Quickening.

There is only one other symptom which I think is useful to notice—*i.e.* quickening; by which is meant the first sensation experienced by the mother of the *life* of the child within her womb. The first time this motion of the child occurs, the sensation is like that of the fluttering of a bird within her; and so sudden, that she frequently faints, or falls into an hysterical paroxysm. A day or two passes by, when it recurs. It afterwards increases both in frequency and degree, until the movements of the child are fully recognised.

The *period* when quickening takes place is *very uncertain*. An impression is extensively prevalent that it always occurs *exactly* at the end of four calendar months and a half; but this is not the case: it varies in different women, and in the same woman during different pregnancies, as the following instances will prove.

Mrs. F. quickened with her first child at *four* months; quickened with the second at *fourteen weeks*; and is now in her third pregnancy, and reckons from the *fourteenth week* again.

Mrs. B. has had seven children, and with all felt the motion of the child for the first time at the *third month*.

Mrs. M.M. has been several times pregnant; seldom feels the movements of the child at all until the *sixth month*, and *not strongly* till the *eighth*.

The annexed table of the periods of quickening of 70 cases, taken in the order in which they have been entered in the author's note-book, will forcibly stamp the truth of these opinions. In a few of these cases, for the sake of convenience, I have used round numbers, when two or three days either before or after was

the exact time; and, for the sake of correctness, have omitted several cases in which there was the slightest doubt in the patient's mind of the exact time.

It will be seen from this table that this symptom takes place more frequently between the 12th and 16th week, than before or after these periods; and that subsequently to the $4\frac{1}{2}$ and before the expiration of the 6th month, it may occur in the proportion of more than one case out of every five. Before the third month, quickening seldom arises.

Number of Cases	Date of Pregnancy at which Quickening took place
70 {	At the third month
	At three months and a half
	At the fourth month
	At four months and a half
	At the fifth month
	At five months and a half
	At the sixth month

This symptom may not be felt by the mother at all, and yet pregnancy exist. This is rare; but the fact is confirmed by many writers, and I have met with such cases, the mother giving birth to living and healthy children.

Now comes the question, how far this symptom is of value as a sign of the pregnant state? It may be thus far depended upon:—If experienced in former pregnancies, this symptom is invaluable; for I believe it is not to be mistaken. If the case is a first pregnancy, and doubtful, the occurrence of this sensation removes all obscurity, provided it grows stronger and stronger, until the movements of the child are distinctly felt. ✓

Four only of the symptoms of pregnancy have

been noticed, because the remainder are not recognisable except by the accoucheur, although to him of the greatest value when pregnancy is complicated and doubtful from the presence of disease. The nature of these symptoms has been described as plainly, and yet as briefly, as possible, because of the importance of their being clearly understood by the married woman. I have also endeavoured to point out their real value as evidences of pregnancy—how they are sometimes absent in patients who are pregnant, and some of them present in those who are not so—because of the doubt and obscurity which arise from these variations. And, lastly, in bringing these observations to a conclusion, I venture to say that, if the married woman will only take the trouble to make herself familiar with this little detail, she will not regret the time as lost or misspent, because it will generally guide her right, and, I trust, save her many moments of anxiety and discomfort.

CHAPTER III.

*OF THE DISEASES OF PREGNANCY, AND
HINTS FOR THEIR PREVENTION AND
RELIEF.*

IN describing the diseases which are incident to the whole period of pregnancy, my design is to take a general popular survey of the subject. I wish simply to communicate that kind of information which every married and well-educated woman should certainly possess, and can usefully employ. To advance farther than this—to those points upon which the assistance of the medical adviser ought to be sought—would be on every account improper, and productive rather of evil than of good.

There is no organ in the body, with the exception of the stomach, that exercises a more extensive control over the female system than the womb. Hence, when in the condition of pregnancy, it affects, directly or indirectly, various parts of that system. The effects of pregnancy, however, vary much, according to the constitution of the female.

Occasionally a very salutary change is produced, so that the individual enjoys better health during gestation than before. The delicate and frequently-ailing girl, for instance—the propriety of whose marrying was a matter of doubt among her friends—becoming pregnant, will sometimes, instead of realising the appre-

hensions and fears of those most dear to her, acquires new life and vigour from the altered circumstances of her condition. On the other hand, it is sometimes the case that harassing and painful symptoms will arise. These are designated the ‘diseases of pregnancy.’

Sect. 1.—Morning Sickness.

Nausea, or vomiting, is one of the most common and distressing affections of pregnancy. It is chiefly troublesome in the earlier months of gestation, continuing until the period of quickening, when it decreases or ceases spontaneously; or it does not occur till the latter months of pregnancy, when it subsides only upon delivery.

Sickness during the Earlier Months.—This arises solely from sympathy with the newly-commenced action, and irritable condition of the womb. This is evident from the fact that, as the novelty of the pregnant state ceases, and the stomach becomes accustomed to it, the sickness subsides gradually, and is rarely troublesome afterwards.

It occasionally commences immediately after conception; and it is a remarkable fact, that a pregnant woman scarcely ever feels sick until she first gets upon her feet in the morning. Hence it is called the ‘morning sickness.’ She awakes refreshed and well, rises from her bed, and, whilst dressing, begins to feel qualmish. At the breakfast-table she has no appetite, or, if she takes anything, is shortly obliged to leave for her dressing-room, where she returns what she has taken—or, if she has been unable to take anything, ejects a fluid, limpid, thin, and watery; and if the vomiting increases in severity, bile is thrown up at the

same time. After the lapse of three or four hours she feels quite well again, and by dinner-time sits down with an appetite to her meal.

Sickness without disordered Digestive Organs.—

If there is merely nausea or vomiting, without the presence of bile, it is evident that it arises solely from irritability of the stomach, and is not connected with a disordered condition of the digestive organs, which latter circumstance is not unfrequently the case. An important means to relieve this irritable state will be found in the use of the compress. The compress is a belt from 8 to 10 inches in its middle and widest part, gradually narrowing to either end, in one of which is a slit through which the other end passes. To these are attached broad tapes for the purpose of fastening the belt round the body. It is made of double sheeting or brown holland, lined with india-rubber cloth, and has three straps passing across it, under which is placed a piece of linen five or six times folded, and previously wrung out of cold water. This wringing out is called refreshing the compress, and should be done every two hours, or oftener, if it gets hot and dry. The belt is worn from the breast-bone to an inch and a half below the navel, and so firmly secured as not to admit the external air. Put this on half an hour before rising, refresh it every two or three hours, laying it aside just before dinner, and of course while taking any bath. Should the sickness prove obstinate, it may be reapplied an hour after dinner, and worn through the rest of the day. If this simple but frequently efficacious means fails, the following draught may be taken twice a day for several days:—*Magnesia, fifteen grains; tincture of calumba, one drachm; distilled peppermint-water, one ounce and a half.*

Medicine sometimes is hardly called for, and I have known a tumbler of warm chamomile tea,¹ or even warm water only, taken immediately nausea was felt, by inducing immediate vomiting, tranquillise the disturbed stomach, and thus abridge the morning attack. It is sometimes attended with advantage to take the chamomile tea from half an hour to an hour before rising. I advised this with the most marked success in the case of a lady who was very much reduced by the morning sickness. It had continued for several weeks, and with so much violence and straining as to cause blood to be ejected with the fluid. In less than one week, when all other means had previously failed, the above suggestion was successful.

It frequently happens that the acidity is very great; in which case 15 or 20 grains of magnesia should be taken in a wine-glass of milk or (if it is preferred) a small tumbler of soda-water; but the latter must not be persevered in for any great length of time, as it will then become injurious. The presence of acidity, however, is sometimes so difficult to overcome by alkalies, that these medicines must be given up, and acid remedies employed. Lemonade may first be taken, but a table-spoonful of lemon-juice is still better.

✓ The *state of the bowels* must not be forgotten, and if any of the latter remedies are resorted to, the most marked benefit will be derived from a gentle dose of Pullna, or of Friedrichshalle water, every second morning, if so often necessary.

The *diet* in such a case must also be carefully attended to; but as this point will be referred to more

¹ Take of chamomile flowers, two drachms; boiling water, half a pint. Macerate for ten minutes in a lightly-covered vessel, and strain.

particularly presently, it is only necessary now to say that the quantity of food taken must bear some proportion to the slightly diminished powers of the digestive functions, and that it will be well, when the sickness is very obstinate and distressing, to take no food at all for several hours after rising. If after a few hours the mouth is much parched, it may be moistened with a little broth or weak beef-tea; but let nothing more be taken for five or six hours, and it is most probable that the sickness, which has resisted all other means, will thus be relieved.

Sickness, with disordered Digestive Organs.—If this irritable state of the stomach is connected with a disordered condition of the digestive organs, the sickness will be accompanied with the presence of bile in the matter vomited, a furred tongue, confined or irregular action of the bowels, and occasionally with what is termed ‘a sick headache.’ These symptoms are to be relieved by medicines which thoroughly clear out the bowels, allay the irritability of the stomach, and afterwards by those which restore tone to both. But it is to be observed that the following directions are only intended to apply to those simple cases in which, whether necessary or not, women never think of consulting their medical adviser, and for which it is certainly desirable that they should have some judicious directions, rather than be left entirely without them. *If these symptoms become at all aggravated, it is requisite that they should make immediate application for professional advice.*

The bowels will need, in the first instance, a draught composed of infusion of senna and Epsom salts—the common ‘black draught’—with half a drachm of the tincture of henbane in addition. This, with five grains

of blue-pill, most probably effects the object desired; the bowels will be well purged, and the tongue become clean. The next thing is to allay the irritability of the stomach, which is to be accomplished by the means already pointed out—either the effervescing draught of soda, the magnesia, or the chamomile tea. After a little time, the sickness having subsided, tonic medicines may be taken; and a fourth part of the following mixture, taken three times a day, will, under the present circumstances, be the best means of restoring the tone of the stomach and bowels:—*Sulphate of quinine, six grains; diluted sulphuric acid, half a drachm; infusion of calumba, five ounces and a half; simple syrup, half an ounce.*

Sickness of a very Obstinate Character.—All the remedies for relief detailed may in some cases fail. The sickness continues most obstinately; every time the individual takes food, or even sometimes when abstaining from it, she vomits; and at last, from this excessive irritability, and long-continued violent action of the stomach, symptoms threatening miscarriage will manifest themselves. There is generally in such a case pain and a sensation of tension about the pit of the stomach, increased after every attack of sickness. If symptoms of miscarriage are not present, the application of six or eight leeches to the stomach, and pieces of soft linen rag well soaked with laudanum, constantly applied and renewed, will give the most decided relief. If, however, there is pain in the loins and hips, increasing in frequency and power, becoming at last slightly bearing down, I strongly advise the patient to consult her medical adviser; as directions, which he alone can give, will in such a case be absolutely neces-

sary, and I may add, if perseveringly acted up to by the patient herself, be certainly attended with success.

Sickness at the Conclusion of Pregnancy.—This arises from the distended state of the womb affecting mechanically by its pressure the coats of the stomach, and certain parts in its neighbourhood.

This form of vomiting but rarely occurs; for do not let me be supposed to refer to the sickness which sometimes immediately precedes, and generally accompanies the early part of labour. I am speaking of that irritability of the stomach which may arise about the sixth, seventh, or eighth month, and from which the individual has been entirely free during the previous months of gestation, and now producing vomiting of an exceedingly troublesome form. Judicious medical treatment is always decidedly necessary, and should be sought at once; for, if the vomiting be severe, premature labour might be brought on. A grain of the extract of opium may be given to allay the irritability at night, and cloths dipped in laudanum frequently applied to the pit of the stomach.

In all forms of sickness arising from pregnancy as its cause, the diet must be light, mild, and nutritious, taken in moderate quantities of three or four meals a day. It should consist of mild animal food, boiled or roasted. Chicken, game, mutton or beef roasted, are the viands most nutritious and easily digested. Stale pure bread untoasted, or captain's biscuit, mealy potatoes, or well-boiled rice, in moderate quantities, may be taken with animal food for dinner. A glass of port wine with warm water, at the conclusion of the meal, is the best kind of beverage.

Advantage has often been derived from always taking brown bread, and Jamaica sugar in the morn-

ing's coffee. The healthy operation of the bowels has been thus promoted, although a system of regular walking exercise, apportioned to the strength, and short of fatigue, will generally effect this purpose, while at the same time it gives tone to the general health. Fatigue of body is sedulously to be avoided. ✓ Slow and moderate walks, or exercise in an open carriage, should be daily obtained between breakfast and dinner—care being always taken to avoid sitting down to the latter meal tired, and, therefore, probably with a blunted appetite.

Sect. 2.—Heartburn.

This is a very common and distressing symptom. It occurs early after conception ; sometimes, however, not till after the fourth month ; and occasionally is absent altogether. It is produced by an acid forming in the stomach, which rises into the throat, and, from the sensation it occasions, is called *heartburn*.

Various are the remedies in common use, as soda-water, magnesia, prepared chalk, equal parts of lime-water and milk ; and they generally mitigate the complaint if slight, but more generally fail. The best means consists in taking, twice or thrice a day, a teaspoonful of aromatic spirit of ammonia, or a tablespoonful of liquid magnesia, in a wine-glass of camphor julep ; or if the case be very intractable, the following draught three times a day, for three or four days :—*Magnesia, fifteen grains ; solution of carbonate of ammonia, ten drops ; distilled peppermint-water and distilled water, of each half a wine-glass.* The compress alone will frequently remove an attack of heartburn, and for this purpose may be put on night or day.

The bowels must be carefully regulated, and the diet most strictly attended to.

Sect. 3.—Costiveness.

A costive state of bowels is one of the most common, and at the same time troublesome, of the diseases of pregnancy. It arises partly from the increased activity which is going on in the womb, and which induces a sluggish condition of the bowels, and partly from the pressure of the now enlarged and expanded womb on the bowels themselves.

It is the frequent source of many and serious evils, and therefore ought to be most vigilantly and carefully guarded against. *First*—Because, as before stated, pregnancy itself predisposes to constipation. *Secondly*—Because it is much more easily prevented than removed, when, after several days' confinement, an accumulation of hardened fæces has collected in the lower bowel. *Thirdly*—Because such an accumulation may give rise to inflammation of the bowel itself, and, in the earlier months of pregnancy, to miscarriage. And, *lastly*—Because if a woman falls into labour with her intestinal canal so loaded, it will of itself be sufficient to render what would otherwise have been a quick, easy, and safe labour, a long, painful, and difficult one, and may be the cause also of very serious and alarming symptoms some forty or eight-and-forty hours after her labour is over. A well-conducted regimen, and a careful attention to the regulation of the bowels during pregnancy, contribute most essentially to a good labour and a good getting up. ✓

The first and leading symptoms of this affection is

a costive or more consistent state than usual of the faecal excretions, with a less frequent call for evacuation than is customary with the individual when in health. If this is not attended to, and several days, perhaps a week, pass by without the bowels being relieved at all, pain in the head, a foul tongue, and an increased degree of fulness and tension of the abdomen, are experienced. These symptoms are followed, in all probability, by thin watery evacuations, attended with pain, weight, and pressure about the lower bowel; they become frequent; and the individual at last, finding the bowels are not only open again, but even loose, takes chalk mixture. She is not aware that this very looseness is nothing more than increased secretion of the lining membrane of the bowel, caused by the pressure of the accumulated mass of hardened faeces, which it passes and leaves unmoved. The chalk mixture relieves the irritation upon which the looseness depends; but the disease is not removed, and, instead of its being a case simply of costiveness, it has now become one of constipation; an accumulation of hardened stool is distending and irritating, by its pressure, the lower bowel and the womb, and the serious consequences before enumerated may follow.

Very often have I been consulted by a patient far advanced in pregnancy, for what she has supposed mere looseness of bowels, which has readily been found to originate under circumstances like these. It is of the highest importance that the patient should endeavour to guard against such a result; and without doubt she may avoid it, and regulate her bowels with great comfort to herself, throughout the whole period of pregnancy, if she will only use the means.

The Means for Regulating the Bowels.—In point-

ing out a plan to accomplish this desirable object, next to a careful observance of the general measures alluded to in a former chapter, the first prescription I have to offer is by far the most valuable—‘prevention is more easy than cure.’ If the bowels are sluggish to-day—that is to say, if they are not so freely relieved as usual—and you do not assist them by medicine or other means, depend upon it to-morrow they will be confined, and there will be no relief at all. Dr. Tanner says:—‘For the treatment of simple constipation, medicines are seldom necessary. It is generally advisable at all events first to try the effects of daily exercise, and regularity in soliciting intestinal action; together with the eating of brown bread, fresh vegetables, ripe fruits, baked apples, figs, prunes soaked in olive-oil, mulberry-juice, marmalade, honey, or tamarinds.’ If the bowels are still *disposed* to be costive, I would in the first place advise a trial of the compress, sometimes an excellent and sufficient substitute for medicine. It may be put on over night when the bowels have been disposed to be confined during the day, and, aided by gentle exercise the next morning, will frequently accomplish the desired object. If it fail, take the sitz-bath for ten minutes on rising and at noon, at the ordinary temperature in summer, and in winter at sixty to sixty-five degrees. Sluice the abdomen for two or three minutes before coming out of the bath, and drink a tumbler of cold water after it. Take exercise for a quarter of an hour after the morning bath, and before and after that at noon. Apply the compress on rising, and wear it till the dinner hour, refreshing it as often as required.

If these means fail, substitute for the morning bath a lavement of luke-warm water.

These simple measures alone will sometimes suffice. Should they fail, recourse must be had to those of a more medicinal character.

Milk of sulphur, as much as will lie on a four-penny-piece, put on the tongue and washed down with a glass of water immediately before breakfast, is in some constitutions invaluable as the most perfect imitation of natural relief. In others, if it does not nauseate the stomach, one large tablespoonful of castor-oil may be preferable, or a large wine-glass of Friedrichshalle water; to be taken two hours before breakfast, and fasting.

✓ It will now and then happen, however, that the day has been allowed to slip by. When this is the case, in combination with any of the foregoing medicines the use of the lavement is desirable. Medicine alone will not answer the purpose, unless it be taken in doses so strong as will not only move the bowels, but irritate them too. With the employment of the warm water mild aperients never fail. Women, generally, are averse to the use of the lavement, and it is a prejudice which is most deeply to be regretted. I have known purgative medicines so often resorted to, and in time so increased in power and quantity because they began to lose their effect, that by the continual irritation they kept up disease of the lower bowel has been produced, and death has at last been the consequence. If, then, the bowels have been confined for one or two days, the lavement in the morning will render much less medicine necessary, and frequently have an effect when medicine only would not. Many women use this remedy alone, every second or third morning during the latter weeks of pregnancy; and by this means they regulate their bowels—which would other-

wise be confined—with great comfort to themselves, and need no medicine at all.

In conclusion, be it remembered that if the bowels have been confined several days, and diarrhœa comes on, this is not a natural relief, but the effect of irritation, caused by the presence of a loaded state of the lower bowel, which must be quickly removed by the medical attendant, or it may give rise to some one of those serious evils already enumerated.

Sect. 4.—Diarrhœa.

An affection, the very opposite to that which has just been discussed, may occur during pregnancy. We have seen how diarrhœa may arise as a symptom of costiveness. It will manifest itself, however, independently of such a cause. The intestines may participate in the irritability of the womb; and their vermicular action becoming morbidly increased, diarrhœa is the consequence. It is a disease which varies very much in different individuals, and may clearly be divided into two kinds:—

One, in which the motions are more loose and frequent than in health, but not otherwise much altered in their appearance. The tongue is clean or only slightly white, and the appetite is pretty good. No medicine is required here; a careful diet will correct the evil.

In the other case, the stools are liquid, dark coloured, and very offensive, accompanied with a coated tongue, bad taste, offensive breath, loss of appetite, and more or less disorder of the digestive organs. In these latter circumstances I have found, at first, the following draught, given every three or four hours,

very useful :—*Rhubarb*, eight grains ; *ipecacuanha*, one grain ; *dill-water*, one ounce. As the tongue cleans, and the stools become more natural, a wine-glass, three times a day, of some bitter infusion, such as *cascarilla*, orange-peel, or *gentian*, may be taken with advantage. If the diarrhoea continue for any length of time, it is always wise to have the surface of the body kept warm with flannel ; and this is best accomplished by a flannel roller bound gently round the abdomen.

But in either form of this disease, whatever remedies are proposed, there is one mode of treatment applicable to both, and which is the most important of all—a proper system of *diet*. The food must be sparing in quantity, of the mildest quality, and such as to leave, after the process of digestion, as little excrementitious matter as possible.

In a recent attack, the *first* day, the patient should only take mild drinks containing a small quantity of unirritating nutriment, such as barley-water, or arrow-root made with water. During the *next* day or *two* their quantity and strength may be increased, and tapioca, sago, and rice-gruel added. When the irritation is somewhat allayed, on the *third* or *fourth* day perhaps, broth may be taken ; but not solid food of any kind, least of all solid animal food, until the disease is removed. As soon as this is the case, a small quantity of the lightest animal food should be allowed : chicken, with well-boiled rice, or game ; then roast mutton and beef—lamb and veal, for the future, being avoided

It may be observed, that in some cases, where the diarrhoea has been of long standing, a *drier* diet is best, the liquid food appearing to keep up the disease. Rice

well boiled, and merely moistened with a little broth, is the best, and one of the most desirable articles of diet in such cases.

Sect. 5.—Palpitation of the Heart.

This is an affection so common and well known that it is unnecessary to describe it. If it occur for the first time during pregnancy, it is rarely connected with disease of the heart itself; it is therefore without danger, although a very distressing symptom. Occasionally there is connected with it throbbing of the vessels in the temples, as also in the abdomen, the latter not unfrequently mistaken by the patient for the beatings of the heart itself.

It will make its attack frequently in the course of a day, particularly after a meal, and very frequently at night, on first lying down in bed; and it may be brought on at any time by the slightest agitation of the mind.

Treatment of an Attack.—When it comes on, if it be severe, the following draught may be taken:—*Compound spirits of ammonia, half a teaspoonful; camphor mixture, a wine-glass.* This may be repeated again in an hour or so, if necessary. It will be well to keep a bottle of this mixture in the bedroom; a resource will always be then at hand, and the dread which attends anticipation in a great measure removed. This is the more necessary, as an attack, if it comes on in the night, is always very distressing. The patient awakes, perhaps out of a frightful dream, with a sense of fluttering in the region of the heart—calls out for breath, begs to have the curtains of the bed withdrawn, the door of the room opened—and will tell you she feels

as if she was dying. Wine, brandy, any stimulant that is at hand, is resorted to ; for the husband or friend of the patient is naturally much excited, and in his alarm scarcely knows how to act. But there is no occasion for alarm ; the sufferer must be assured of this ; her mind must be soothed and quieted ; the palpitation will after a little time cease, and the patient will drop off into a quiet and tranquil sleep. Above all avoid stimulants ; they only tend to prolong the attack, and to increase the feeling of weariness which generally succeeds it.

These attacks may be prevented by taking, for ten days or a fortnight, a tea-spoonful of the following electuary, three times a day:—Carbonate of iron, one ounce and a half ; syrup of ginger one ounce and a half. The bowels must be carefully regulated ; a wine-glass of baume-de-vie is the best aperient, provided there are no piles. Fatigue and all exertion must be avoided, and the mind kept perfectly tranquil.

Sect. 6.—Fainting Fits.

Fainting may occur at any period of pregnancy, but is most frequent during the first three months, and especially about the time of quickening.

It may come on when the person is at perfect rest ; but it is ordinarily produced by more than usual exertion, exposure to heat, impure atmosphere, or any sudden excitement of the mind.

The paroxysm or fit is sometimes of short duration, and the individual does not lose her recollection—she has a knowledge of what is going on about her, and soon recovers ; but in other instances the fainting fit is complete, and of long duration, continuing for an hour or upwards,

The Treatment during a Fit.—This consists in immediately placing the patient in the recumbent posture, the use of pungent volatiles, sprinkling the face with cold water, free exposure to air, and the cautious administration of cordials. And if the fit continue long, the extremities must be kept warm, and the friction of a warm hand be applied to the feet. It is scarcely necessary to add, that those who are subject to these attacks ought to avoid fatigue, crowded or hot rooms, fasting too long, tight lacing, quick motion, and agitation of mind. The bowels must be strictly attended to; and a wine-glass of the infusion of calumba or cascarilla, taken every morning, will be useful in giving tone to the system.

After a few weeks the disposition to fainting will altogether subside.

Sect. 7.—Piles.

Pregnant women are very subject to piles. They are frequently connected both with costiveness and diarrhoea, but particularly with the former. They will usually disappear, if slight, as soon as the bowels are restored to healthy action; but they may not, and then will give rise to great suffering.

They are sometimes occasioned in the early part of pregnancy by the pressure of the enlarged womb, and are cured spontaneously in such a case about the period of quickening, by the rising of the womb into the abdomen, which necessarily removes this pressure.

The pregnant woman recognises piles under two forms:—1st, where they exist as little tumours within or just without the bowel, becoming, very soon after their extrusion, more solid and firm; unless, indeed,

they early break and bleed. And 2ndly, where they present, outside the bowel, a small tumour, separable into lobes, altogether like a piece of sponge, coloured, and bleeding occasionally from the surface.

Of all the *causes* which operate in the production of piles, habitual constipation is the most frequent. The excrementitious matter is delayed in the bowel, becomes hard and knotty, and a source of great irritation; this irritation induces a determination of blood to the part, and the gradual dilation of its vessels takes place as a consequence, which eventually forms the tumours known under the appellation of *piles*. Now as in pregnancy there is a greater disposition to costiveness than at any other time, and as piles may be a consequence of this disordered function, so this disease is much more prevalent during the pregnant state than at any other period—another argument, and a very powerful one, why costiveness should be diligently guarded against.

The *symptoms* of this complaint are well known. There will be weight, heat, and a sense of fulness about the lower bowel, a frequent desire both to relieve the bowels and bladder; all of which symptoms are removed for a time if a discharge of blood takes place.

If the piles be outside the bowel, they are constantly irritated by the friction of the parts in the ordinary motion and erect position of the body, and that to a painful degree during the period of the evacuation of the bowels. If exercise be taken in a carriage the pain is much aggravated; and if the irritation produce inflammation, the piles will become swollen, red, or purple, and excessively painful.

The *treatment* of this disease, when it occurs during pregnancy, is twofold—general and local. We must

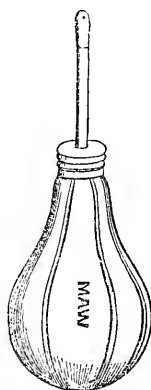
remove the *cause* by such means as excite a brisker action of the bowels; and our choice of aperients must be directed to those which act efficiently but mildly, and without irritating the lower bowel itself. Next to small and repeated doses of castor-oil—say a table-spoonful—the most desirable form of aperient that can be employed is the confection of senna (i. e. lenitive electuary) combined with sulphur and magnesia. Of the following form, a dessert-spoonful or more should be taken, at first, twice daily :—*Confection of senna, two ounces; flowers of sulphur, one ounce; carbonate of magnesia, two drachms and a half.*

In conjunction with this medicine, much benefit may be derived by the injection of half a pint of warm or cold water (whichever soothes most) as a lavement; but it must be administered very cautiously, to avoid irritating the parts with the pipe of the instrument, which should be made of caoutchouc, and not of hard bone or ivory.

The best form of instrument is figured below. It consists of an elastic bottle with a flexible tube. To use it, unscrew the top, and fill the bottle with the fluid to be injected, replace the top, and having smeared the tube with a little sweet oil, introduce it gently into the rectum, and empty the bottle by firmly squeezing its sides together; *be careful to keep up the compression until the tube is withdrawn, or otherwise the fluid will be drawn back from the bowel into the bottle.* Maw's instruments are the best and cheapest.

It is important that medicine, in frequent use, should be so taken as to act upon the bowels in the

FIG. 3.



evening only; for if the bowels are acted upon in the morning, the patient, being *obliged to move about all day*, will suffer considerable distress and local irritation, whereas, if the bowels are not evacuated till the evening, the horizontal position and the perfect rest of a long night will obviate all inconvenience. If the bowels, however, do act during the daytime, it will be desirable to lie down for an hour or so, and great comfort will be thus afforded.

Great assistance may be afforded in the cure, and also in alleviating pain, by external applications to the tumours themselves. If, however, the piles are swollen and inflamed, and the pain experienced great, half-a-dozen leeches, or from half-a-dozen to a dozen, should be at first applied in their immediate neighbourhood, the parts fomented, and then warm bread-and-water poultices renewed every three hours. These remedies will afford very considerable relief; and when the inflamed state is subdued, the following ointment must be applied to the tumours and around them night and morning:—*Powdered galls, two drachms; camphor, half a drachm; lard, two ounces. Mix.* Or, *powdered black hellebore-root, one drachm; lard, one ounce. Mix.*

The latter preparation will, for some time after its application, give pain, but proportionate relief will follow. The *diet* must be sparing in quantity, mild in quality, and such as to leave, after its digestion, as little to pass through the bowels as possible.

I may add, that the removal of piles by operation during the pregnant state is perhaps never justifiable. Let the patient, therefore, consult her medical attendant in time, and not, by a false delicacy, expose herself to an evil which it is her duty to endeavour to prevent.

Sect. 8.—Enlargement of the Veins of the Legs.

This is a frequent, but not very troublesome, accompaniment of the latter months of pregnancy. It arises in some degree from the pressure of the womb upon the large venous trunks, impeding, to a certain extent, the free flow of blood through them. It is frequently remarked in pregnant women who have passed a certain age; but it is unusual in the young woman, even during a series of repeated pregnancies.

When first observed, *if the veins have not become knotty*—that is, having little lumps or swellings in their course up the legs—the only means which it is necessary to employ is the application of a calico bandage—six yards in length and as wide as three fingers—from the sole of the foot up to the knee, and sufficiently firm to give support to the venous trunks. This bandage well and equally applied to the limb, with a little aperient medicine twice a week, and the recumbent position for two or three hours in the middle of the day, will cure this form of the affection.

When, after a time, *the veins, more and more distended, have become lengthened, tortuous, coiled up, or knotty*, a sense of heaviness, numbness, and sometimes very acute wandering pain, will begin to be experienced through the whole of the affected limb. And in a more advanced stage, in proportion as the knotty tumours increase, the limb becomes generally swollen. This form of the disease calls for much care and patience on the part of the sufferer. The legs should be strapped, from ankle to knee, with strips of adhesive plaster; and over this a calico bandage must be applied with a moderate degree of tightness, and kept wet with Gou-

lard-water. An elastic laced stocking, made for the purpose, may be worn, and will be found at once a sufficient support to the limb, and a source of great comfort to the wearer.

It will occasionally happen, and I have lately seen it even in young married women, that, connected with enlargement of the veins of one or other leg, there will also be a similar enlargement of the veins of *the external parts* of the corresponding side of the body. Appearing for the first time at an early period of the pregnancy, the enlargement increases as the months advance; so that just before confinement it will sometimes have acquired the size of a pear or orange. It becomes a source of great annoyance, as it almost incapacitates for walking, and is always much increased, for a time, by attempting to do so. It also causes great anxiety; for which, however, there is not the least occasion. When it increases much in size, the recumbent posture must be kept during the greater part of the day, half-a dozen leeches applied very near to the parts, and a gentle aperient taken occasionally, as great attention ought to be paid to the state of the bowels. The parts within being sometimes hot and irritable, they should be dressed night and morning with a piece of lint folded and spread on both sides with spermaceti ointment. These means will generally considerably diminish the swelling and remove uneasiness; but the swelling itself will continue during the remaining weeks of pregnancy. After delivery it will gradually subside, although perhaps it will never entirely disappear.

Sect. 9.—Swelling of the Feet and Legs.

In the course of pregnancy, during the latter months particularly, the feet and legs frequently become much enlarged. This is partly owing to the pressure of the womb, but sometimes apparently independent of it. It is first observed towards night about the ankles; by degrees the swelling rises higher, and the legs may become of a very large size. The sufferer from this complaint always goes to bed with her legs much swollen; but towards morning the face swells, and the enlargement of the legs disappears to a greater or less extent, returning, however, as the day advances.

Sometimes this complaint is very trifling in its character, requiring only that the bowels be kept freely open, and the feet and legs supported by a well-applied flannel roller; but when the swelling is extensive and permanent, remaining in the same degree after the patient has been for several hours in bed, and connected with uncomfortable sensations in the head and an accelerated pulse, a medical man ought to be consulted—for the consequences might otherwise be dangerous.

Sect. 10.—Toothache.

This may appear a trifling disease to notice in connection with the subject before us; but, in the course of pregnancy, women will sometimes suffer severely from erratic pains in the face and teeth. As these pains are generally induced by the increased irritability of the nervous system, the result of the new action which is going on in the womb, and not from the decay of any

✓ particular tooth, extraction of any tooth for its cure is out of the question. Indeed, should the suffering arise from a carious tooth, its removal will be advisable, provided the patient is strong enough to bear the shock of the operation. The fact is, that the patients who have consulted me while suffering from this affection have had apparently, in most cases, very sound teeth; and feeling confident that its cause has been what has been before pointed out, the treatment has been purely constitutional. We should trust, therefore, to efficient laxatives, tonics, good diet, with a little wine, and sedative fomentations (poppyheads). Small doses of quinine, combined with a little tincture of steel, sometimes work wonders. These remedies may be continued for some time with great advantage to the general health, even after all uneasiness in the face has for some time subsided.

The only local application I would advise is that of washing out the mouth and teeth, night and morning, with a tumbler of lukewarm water containing a teaspoonful of common salt. This plan of treatment not only relieves the painful affection of the face and teeth, but allays also that local irritability of the nerves upon which it depends.

Sect. 11.—Salivation.

A pregnant woman must not be surprised if, some little time after conception, or during any of the months of gestation, the ordinary quantity of saliva, which lubricates and keeps the mouth constantly moist, should increase to such an extent as to be exceedingly troublesome, and, indeed, sometimes becomes so excessive as seriously to affect her health. It is a symptom

of pregnancy, but a very unusual one, although the quantity of saliva discharged has now and then exceeded three, and even four, pints daily.

It differs essentially from the salivation produced by the employment of mercury, inasmuch as in this case there is no tenderness of the gums, or disagreeable foetor in the breath. The fluid itself is either perfectly colourless and transparent, or tenacious and frothy. It has an unpleasant taste, and, when tenacious, induces vomiting. It is generally accompanied with acidity; and the plan of *treatment* most advisable, when the disease is moderate in its character, is the frequent use of from 20 to 30 grains of magnesia, say every morning, rinsing the mouth out very often with lime-water; or the following gargle may be tried: two fluid ounces of glycerine of borax, mixed with half a pint of rose-water. To be used several times a day. Should this symptom, however, be very excessive, the health will suffer considerably in consequence, and the assistance of the medical man is imperatively called for.

As this affection is of very rare occurrence as a symptom of pregnancy, the following case is inserted; it will serve as a good illustration, and at the same time afford encouragement and confidence to any that may be similarly affected. It occurred in the practice of my friend the late Mr. Hooper, of Newington, in whose words I quote it:—

‘A respectable married lady, about thirty-two years of age, of a pale and sallow complexion and nervous temperament, has been the subject of salivation in *three* pregnancies out of four. In two instances this symptom appeared as the first indication of her situation; and in all three it continued throughout the whole

of the remaining period of gestation. The average quantity of saliva discharged was about a pint daily ; it was not attended by any fœtor, but with some irritability about the glands of the throat and fauces.

‘Twice out of three pregnancies this symptom disappeared directly after delivery (say forty-eight hours), but the time before last it remained about two weeks. It was mostly suspended during the latter part of each labour, when the pains were frequent and severe.

‘The general health did not suffer.’

Sect. 12.—A Painful and Distended Condition of the Breasts.

Pain and tension of the breasts frequently attend conception.

In a first pregnancy a large and rapid development of this organ may take place, the breasts becoming two or three times as large as before marriage ; but if tight lacing be carefully avoided, and the breasts be permitted to expand, no material inconvenience will arise from this circumstance.

As, however, these symptoms are sometimes attended with considerable distress, I would advise, under such circumstances, the application of half-a-dozen leeches, tepid fomentations, and a gentle aperient, viz. two drachms of Epsom salts in a little peppermint-water, night and morning. These means, by relieving the over-distension and fullness of the vessels of the part, remove the cause and complaint at once.

If these symptoms occur to an individual who has been several times pregnant, and has formerly had an abscess in one or other breast, that bosom is generally most painful which was before affected ; and there will

be an increased hardness about it, which may give rise, perhaps, to the apprehension of an abscess again forming; these fears are groundless; and if fomentations are employed, with gentle friction, frequently during the day, with almond-oil and laudanum—about a drachm of the latter to an ounce of the oil, warm—and patience is exercised, everything will do very well.

Nature often seeks her own cure; and a colourless thin fluid runs from the nipple, which relieves the symptoms.

Sect. 13.—Cramp and Pains in the Legs, &c

Some women, during the latter months of pregnancy, suffer dreadfully from cramp and pain in the legs and about the sides and lower part of the stomach. This symptom arises from the pressure of the womb upon certain nerves in its neighbourhood which proceed to the extremities.

If the cramp be seated in the muscles of the leg, a hard knotty induration is perceivable to the touch, accompanied with great soreness, the latter continuing for a long time after the lump has disappeared. An uneasy position of the muscles is a sufficient cause of irritation to produce it; and it is frequently removed by simply rising from the bed or sofa, and walking about the room, so as to put the muscles of the leg into action. If this does not succeed, warm friction with the naked hand, or with camphorated oil, generally will.

If spasm affect the sides, or lower part of the stomach, the speediest relief will be obtained from ten or twenty drops of laudanum, with the same amount of ether, in distilled peppermint-water, or even, at the moment, a little brandy-and-water. I also direct

that the feet be put into a tepid mustard foot-bath, and considerable friction applied to the soles of the feet by the hands of an attendant. During the attack, great benefit will be derived from the regular use of the sitz-bath at 85°, every night upon going to bed, for a quarter of an hour, which will greatly alleviate these troublesome sensations, and sometimes entirely remove them without the use of medicine. This may be persevered in, even up to the time of confinement, without hesitation, if the symptoms continue to demand it.

Sect. 14.—Violent Movements of the Child.

Before the third month of pregnancy, the child is not sufficiently developed to enable it to move. When a little farther advanced in growth it moves, but so feebly and imperfectly that the mother is not yet sensible of it. A period, however, soon arrives when its movements, although at first like the mere fluttering of a bird, acquire a power and force that enable it to give decided proof of life. It is instantly recognised; the woman knows she has quickened, and perhaps the sensation experienced is so sudden that she faints. After this time the motions of the child increase both in frequency and degree, and are readily perceived by the mother; but after a time the womb, accustomed to this action within itself, is less sensible of its effects, and, except as a satisfactory evidence of the life of the child, it is little regarded.

Sometimes, however, the child is *disagreeably active*—so violent as not merely to alarm the mother but occasion much sickness and uneasiness, sleepless nights, and feverish symptoms—and all this to such an extent as to require medical interference. If this is not

thought necessary, great relief will be found from fomenting the abdomen before going to rest after the following manner. Let the attendant put a piece of flannel, *three* times folded, into a basin. Pour upon it boiling water just sufficient to soak it. Wrap it in a dry towel and wring it out; spread it upon the abdomen, cover it with a double fold of dry thick flannel, and immediately draw the bed-clothes over. After eight or ten minutes apply a fresh hot flannel, and let this plan of fomentation be pursued for half an hour. The immediate effect will be to relieve pain and soreness, and to induce calm and refreshing repose. This remedy will afford the greatest relief; and if the symptoms are not altogether removed by it, the woman must then endure her sufferings patiently, recollecting they are a proof that the child is alive and vigorous.

Sect. 15.—Soreness and Cracking of the Skin of the Abdomen.

It will sometimes happen, during the latter months of pregnancy, that the skin covering the abdomen will not yield readily. This produces much uneasiness; the skin becomes tender and fretted, and, if there is a very great distension, cracks. It forms a source of great discomfort, and renders the sufferer miserable whenever she moves.

It is to be relieved by fomenting the parts for half an hour night and morning, after the plan pointed out in the previous section, with decoction of poppy-heads; ¹

¹ This decoction is made by taking four ounces of poppy-heads, breaking them up, putting them into a vessel, pouring upon them four pints of boiling water, boiling the whole for fifteen minutes, and then straining off the liquor.

then by freely lubricating the parts with warm almond-oil, and subsequently dressing them with spermaceti-ointment, thickly spread on pieces of soft linen, which are to remain on during the intervals.

Sect. 16.—Inconvenience from Size.

Many women in the latter months of gestation experience considerable annoyance, and sometimes severe suffering, from the great size of the abdomen, and from want of support even when it is not so very large. This is a rare occurrence in a first pregnancy, owing to the firmness of the abdominal muscles, but very frequent in subsequent ones. Little women especially suffer from this unpleasant cause; and, in fact, it is so universally the case with all who have borne children *rapidly*, that it is highly important to be provided with the means of relieving it.

There is but one remedy with which I am acquainted; but I have usually found it answer every purpose. It is, wearing during the daytime a *well-applied belt* next the skin. It must be sufficiently broad for its upper edge to surround the abdomen above the point of its greatest diameter, and its lower edge to come down to and be supported by the hips. It must be drawn tight by a lace-string behind, as circumstances may require. Such a belt, if properly made, can be put on by the patient very quickly, and without assistance; and the degree of support required from day to day can be regulated with ease and accuracy. It must, however, be made with care, in order to fit well.

Those who suffer much from this cause ought also to lie down upon a couch or bed for an hour or two

every day. This will give great relief to the muscles. After confinement the belt should be worn for some weeks.

Sect. 17.—Being Unwell during Pregnancy.

A woman may be pregnant, and yet be unwell for one period or more whilst in that condition. Indeed, it may take place every month to the time of quickening, and has even continued in some rare cases up to time of delivery. Now, although this can scarcely be called one of the diseases of pregnancy—for it ordinarily in no way interferes with the health—still, while the discharge is actually present, as it predisposes to miscarriage, it is necessary to give one or two cautions.

Anyone thus circumstanced should manage herself with great care immediately before the appearance, during the existence, and directly after the cessation of the discharge. She should observe the most perfect quiet of body and mind—keeping upon the sofa while it lasts, and carefully abstaining from any stimulating or indigestible article of food ; and if any symptoms of pain, uneasiness, or such as threaten miscarriage come on, immediately seek medical advice.

The following case, showing the necessity of carefulness under such circumstances, occurred to me some time since :—

A lady, resident in Gloucestershire, missed one period ; suspected herself to be pregnant, but, being unwell on the following month, supposed herself to be mistaken. She had occasion, however, to come to London on the second day of her being unwell—Monday. On the Wednesday following she suffered considerable uneasiness from the exertion attendant upon the journey, and on Friday, whilst from her hotel, was obliged to return home in haste, and before night miscarried.

Here, then, is a case in point—first proving, what some persons deny, that a woman may be unwell and yet be pregnant ; for she could not perceive the slightest difference in the appearance of the discharge from what ordinarily took place, and it was exact as to the time of its return—and, next, showing how necessary is great caution, and the most perfect quiet, since there is no reason to suppose this lady would have miscarried if her journey had only been delayed another week.

Sect. 18.—Affections of the Bladder.

The bladder is often affected by pregnancy. In the *early* months it may, like the intestines, become more torpid than formerly, or, on the other hand, unusually irritable. In the *latter* months there may be an inability to retain the urine.

1. **Torpidity of the Bladder.**—In this case the water is long retained, and then expelled with some difficulty, and in considerable quantity at a time. This state requires great attention on the part of the sufferer ; for if it occur about the third or fourth month, serious consequences might attend its neglect—miscarriage, for instance.

There is not much to be done by medicines ; the relief that is to be obtained from soda and similar remedies is very partial. But all that is required for its relief is the *regular effort* of the individual to pass her water. She must never allow the bladder to become distended, and therefore never permit six hours to elapse without attempting to relieve herself. If she fail to do this, and an inability to pass water arises, the medical attendant must without delay be called in.

2. Irritability of the Bladder.—More frequently the bladder is rendered unusually irritable, and uneasiness in the region of this organ is felt.

This state requires a very different treatment from the former; for here soda and all saline medicines, which would render the urine stimulating, must be strictly avoided. Small doses of castor-oil, so as to keep the bowels gently relaxed; three or four grains of the extract of henbane, twice a day for four or five days; and drinking freely of mucilaginous fluids (barley-water or linseed tea), will give decided relief.

3. Inability to retain the Urine.—This is not at all an uncommon circumstance in the last two or three months of pregnancy. It is produced by the pressure of the womb on the bladder, by which the urine is forced off involuntarily whenever the person coughs or moves quickly; or, if she be not troubled to this degree, she will be unable to retain much of it, being obliged to void it frequently.

It is to be relieved by the recumbent posture, and by wearing, during the daytime, a well-applied belt to the abdomen,¹ which will give support to the womb, and prevent, in some measure, the pressure upon the bladder; but it is only to be permanently cured by delivery.

Sect. 19.—Irritation of the External Parts.

A woman is naturally loth to consult her medical attendant when labouring under this affection. Delicacy causes her to shrink from making any communication to another about it; and she will endure the physical distress to which it gives rise for days and

¹ See p. 98.

weeks, rather than do violence to her feelings. But this troublesome and distressing complaint, unless some remedy is early had recourse to, always grows worse and worse; and as, at its commencement, it admits of speedy and permanent relief, I think it right to point it out.

This tender and irritable state may affect the external parts only, or it may extend within. In either case it will produce the most intolerable itching, especially during the night, when it is sometimes hardly bearable.

It now and then commences in the early part of pregnancy; and when this happens, and it is neglected, it may continue until delivery takes place. At other times—and this I believe to be the most common—it does not attack the female until the sixth or seventh month.

If it is only slight, it may quickly be removed with the following lotion:—*Goulard's extract*, one drachm and a half; *distilled water*, one pint. *Mix.* With this the parts should be washed four or five times a day; and, at the same time, from half a pint to a pint of the same lotion must be thrown up into the vagina by means of a proper syringe.¹ These means, together with a little laxative medicine, will produce speedy and perfect cure.

If, however, the irritation is very great, and extends within the vagina, if the disease has existed some time, and if nothing has been hitherto done for its relief, some additional means must be had recourse to. The parts just within should be thoroughly cleansed with warm water, and then smeared over with the *Goulard's extract*; and this must be repeated morning and night, the external parts being washed freely four or five

¹ See fig. 4, p. 104.

times a day with the Goulard lotion already prescribed for a milder form of this complaint. Or, if this fail to give relief, a strong solution of borax must be had recourse to:—*Borate of soda, four drachms; distilled water, sixteen ounces. Mix.* These measures, with the employment of a gentle laxative night and morning—as the liquid magnesia, or two drachms of Epsom salts in a wine-glass of the infusion of roses—and the recumbent posture (which is indispensable), will remove this troublesome affection.

If the itching is intolerable at any time, iced water, or a bladder containing broken pieces of ice, will afford a temporary suspension of the fit; and it may be necessary to apply leeches, if the disease be very obstinate.

Occasionally this irritation is due to the presence of thread-worms in the lower bowel. In such cases, it can only be cured by getting rid of the worms; this is best effected by enema of salt and water, which may be administered every morning until relief is obtained.

If in any case, after the irritation has nearly subsided, there be present considerable heat, redness, and swelling of the external parts, great benefit will be derived from bathing them liberally three or four times a day with a strong decoction of poppy-heads¹ (to be used warm), and the applying a bread-and-water poultice.

The diet throughout must be moderate, with a total abstinence from stimulants of every kind.

Sect. 20.—Leucorrhœa, or the Whites.

A discharge sometimes accompanies pregnancy, occurring, however, most frequently to those who are bearing children in quick succession.

¹ See note, p. 97.

In the Early Months.—If the discharge is but small in quantity, it will be only necessary to use the bidet with cold or tepid water, liberally night and morning, and to sponge the whole body every morning.

If, however, it is present to such an extent as to render the woman really uncomfortable, then a more vigorous treatment will be necessary: this will consist in the employment of a tepid hip-bath every night and morning, plenty of rest in bed, on a mattress, with only moderate covering, a regulated but nutritious diet, without any stimulants, and the *proper employment* of simple injections. The injection I most frequently order is made by the addition of a quarter of an ounce of powdered alum to each pint of water. It can be used night and morning or even three times daily, according to the severity of the disease. The most simple and at the same time most efficient apparatus for administering such an injection is figured below.

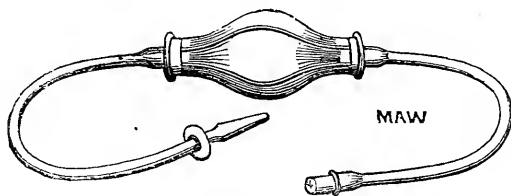


FIG. 4.

It consists of an elastic syphon with a suitable tube. Any amount of injection can be used, according to circumstances, and not the least of its advantages is that it is made and intended for self-administration. It is useful to have such an apparatus, as it can be used for a variety of purposes. Messrs. Maw supply these syphons provided with different sized and shaped tubes, and they can be had of any respectable chemist.

This condition will now and then be accompanied with a feeling of bearing down as if everything would drop through, symptoms which will receive appropriate treatment by the adoption of the above plan (more particularly the recumbent posture), and, if not entirely relieved, will be found to disappear altogether between the fourth and fifth month.

If the discharge is in excess, no scruples of delicacy should prevent medical advice being sought; for if it is not attended to, most probably miscarriage will result.

In the Latter Months.—Coming on in the latter months for the first time, provided it is not profuse, it is useful; for there will generally be symptoms of weight, heat, and discomfort present, which are alleviated by the discharge.

If, however, it is excessive, the frequent use of the bidet, and injections of tepid water into the vagina, will be productive of great comfort. The bowels should be kept constantly open by mild aperient medicines. And the recumbent position, by diminishing the pressure of the womb upon the parts from which the discharge proceeds, will tend greatly to reduce the quantity. Should these means fail to diminish the amount of discharge, the Goulard injection may be thrown up into the vagina with great relief night and morning: Goulard's extract, one drachm and a half; distilled water, one pint.

I think it right to observe that, when this discharge *continues in considerable quantity during the whole period of pregnancy*, it predisposes to premature delivery. Again and again have I known the same individual prematurely confined from this cause alone—her hopes thus repeatedly blighted, and, what is worse, her health unstrung for a long period.

In such women the discharge exists more or less abundantly when they are not pregnant, the menstrual secretion being more plentiful than it ought to be, and the intervals between the periods generally shorter than natural. Such women are generally weak, although they may have the appearance of strength; they can take very little exercise without fatigue; and their habits, although perhaps originally sedentary by choice, after a while become so from necessity. The symptoms, disregarded for months, nay, years by the sufferer, increase; and now she has pains in the head, giddiness, and perhaps indistinct vision, and many other symptoms which it is unnecessary to mention. At last the urgency of the symptoms leads her to seek for professional assistance. How much wiser, if the advice of the medical attendant had been sought, at an early stage of the complaint, when the inconvenience was slight and easily manageable; for in proportion to the duration of the disease will be the difficulty in removing it.

Sect. 21.—Pain in the Side.

This affection comes on towards the latter period of pregnancy, never being felt in the earlier months. It is exceedingly troublesome; and it too frequently happens that the remedies given for its relief, although varied enough, produce no good effect.

The pain at first is slight. The individual suffers little in the morning; but a few hours after dinner the pain becomes more violent, she is obliged to lie upon a sofa, and is frequently observed to place her hand over the part in pain, and press it pretty forcibly. Cough does not necessarily accompany this complaint: it is

not unfrequently present, but it is then unconnected with inflammatory action in the chest. This pain no doubt depends on the pressure of the increasing and ascending womb on the liver, which to begin with is perhaps out of order, and so then less tolerable of this interference.

A belladonna or opium plaster should be applied to the side, and a gentle laxative taken before breakfast. If not relieved by these simple means, you must consult your doctor. If the pain be very acute, a mustard plaster might be applied and kept on as long as can be borne, and followed by repeated poultices of linseed-meal. When the acuteness of the pain has somewhat subsided, then the belladonna plaster may be put on and worn as long as it will remain on.

Sect. 22.—Headache.

Headache during the latter months of pregnancy ought never to be trifled with: for although it will most frequently arise from a disordered stomach, and is then easily removed, it is now and then the effect of a cause much more important.

Headache from Disordered Stomach.—This will generally depend either on a costive state of the bowels, indigestion, or nervous irritation; it is attended with acid eructations, occasional giddiness or slight sickness, foul tongue, and perhaps paleness of the countenance, the attacks being frequently periodical and confined to one side of the head.

This kind of headache is to be relieved by taking a mild aperient every other night, until the bowels are fully relieved and the tongue clean—rest—abstaining from animal food for a few days, and from all stimu-

lants for the remaining period of pregnancy. During the attack itself, ether, or eau de Cologne, may be applied to the head.

Sympathetic Headache.—This is an important disease when severe and constant, and more particularly if the patient is far advanced in her pregnancy. It is to be recognised by a dull appearance and suffused condition of the eye; by the presence of giddiness, especially upon stooping or lying down; and by a sense of heaviness or weight over the eyes or in the head. Its presence is still more strongly marked if there is singing in the ears, fiery objects before the eyes, and indistinctness of vision. The seat of the pain is generally in the back of the head, and is usually accompanied by a fixed pain in some part of the spinal column.

This form of headache is much rarer; it is generally caused by sympathy with the changes going on in the uterine system. But it must not be forgotten that as in the non-pregnant female so in the pregnant, the headache may be due to inflammatory action in the brain or its membranes, or to rheumatism or gout. Hence the necessity of seeking medical advice early in all cases when the pain is obstinate or long continued.

Sect. 23.—Jaundice, &c.

Jaundice sometimes occurs in the early, sometimes in the latter months of pregnancy; now and then a troublesome cough accompanied with considerable pain of the head, and sudden attacks of difficulty of breathing. These and many other slight affections may manifest themselves during gestation; but of these I say nothing: it would be advancing beyond

the bounds by which I thought it right to limit myself, and departing from the object proposed.

I have finished what was proposed, and presented the married woman with that information for direction and relief in those little ailments and discomforts which frequently arise during pregnancy, for which she does not think it necessary to consult her medical adviser, and yet from which she will very often go on suffering for weeks rather than speak of them.

CHAPTER IV.

ON THE PREVENTION OF MISCARRIAGE.

THERE is no accident befalling female health which forms a greater source of dread, anxiety, and subsequent regret to an experienced married woman, than miscarriage. When this becomes a habit, there is no circumstance the consequences of which are productive of more serious injury to the constitution, blasting the fairest promises of health, and oftentimes laying the first seeds of fatal disease.

The frequency of its occurrence, however, would excite little surprise, were the delicacy of the connection which exists in the early months of pregnancy between the future offspring and its parent only understood ; for it would then be easily perceived with what facility this union may be destroyed.

If, then, this accident is so frequent—if its consequences are so serious when the habit of miscarriage is established—and if the facility with which it may happen is so great, from the slight connection which exists between parents and offspring at this early period—it will be asked, Are there any means by the adoption of which an event so sad in its results may be prevented ? Can the female herself contribute in any measure to avert the liability to it ? Or can any plan

be pointed out, the rules of which, when strictly observed, shall eventually remove this tendency when it has grown into a 'habit,' and reward the female by carrying her securely and safely through to the termination of gestation when next she becomes pregnant? In the majority of cases, I reply with confidence in the affirmative; and because the success of such a plan depends for the most part upon the prudence and perseverance of the patient—for a medical man can do little to arrest a miscarriage when the process is once set up—she ought to be fully acquainted with the means of prevention, which, be it remembered, are not only to save her own health, but the very life of her offspring.

The Period at which it occurs.—This is uncertain. The usual term of pregnancy is forty weeks, or two hundred and eighty days. At any time, however, within this period, the child may be expelled; and if this take place before the commencement of the seventh month, it is usually called a miscarriage. The process of gestation may be checked from its earliest period; for many of the causes producing miscarriage which can operate afterwards, may operate through the entire term, and hence miscarriage occurs not unfrequently within three weeks after conception; it most frequently, however, takes place between the eighth and twelfth weeks.

Its Symptoms.—With regard to the nature of this process, and the mode by which it is effected, we have in this place little to do. In warning the female of its probable approach, I have only to mention certain local appearances, and other general and constitutional symptoms, which indicate its commencement.

Thus, if during pregnancy a woman experiences

an unusual depression of strength and spirits, without any apparent cause—if this is accompanied with attacks of faintness, pains going and coming about the lower part of the stomach, loins, and hips—*she threatens to miscarry*. If these symptoms are after a time followed by the discharge of more or less blood, a *partial separation* of the child has already taken place. If the pains in the loins and hips increase, becoming sharper and more expulsive—bearing down—with a free discharge of clotting bright-coloured blood, *the child is altogether separated*. And, in fine, if the blighted and dead child is not quickly expelled, thus terminating the whole process, this event may be looked for before many days elapse; preceded, however, in such a case, by the breasts becoming flaccid, the stomach and bowels more or less disordered, and the discharge altered in appearance and offensive in character.

Here, then, the presence of the discharge, the quantity poured forth, and the subsequent alteration in its colour, are, as will be afterwards pointed out, signs of considerable importance in marking the progress of a miscarriage

The Causes.—The causes of miscarriage are numerous: they are either of an accidental or constitutional kind. The most important of these are the following:—

Accident may give rise to it. The facility with which the attachment between the offspring and parent may be destroyed has already been alluded to. If, then, a sudden shock by a fall, or a blow on the stomach, occur to a woman while pregnant, she can readily perceive how miscarriage may take place as a consequence.

Violent exercise or exertion is a very frequent cause. Immoderate exercise in dancing, riding, or even walking; lifting heavy weights; the fatiguing dissipation of fashionable life—all or any of these will sometimes produce so much disturbance of the nervous and vascular systems as seriously to affect the well-doing of the child, and frequently produce miscarriage.

Violent purgatives, emetics, &c. may produce miscarriage. It is well known that drastic purgative medicines, by their cathartic influence upon the lower bowel, now and then cause miscarriage, and that the violent action upon the stomach of powerful emetics may produce a like effect. Both, therefore, should be carefully avoided during pregnancy.

This leads me to observe that strong purgative medicines, used with a view to promote miscarriage, are necessarily taken in such quantities as generally to produce inflammation of the stomach and bowels, and, if abortion is thus intentionally and wilfully effected, not unfrequently at a sacrifice which is never calculated upon—the death of the mother! It cannot be too generally known that savine, rue, iron-filings, squills, black hellebore, and preparations of the Spanish fly, all of which have acquired considerable popular repute as substances capable of producing abortion, have no such influence directly upon the uterus; that they rarely affect the uterus at all; and that when this is the result, and abortion is obtained, it is generally at the expense of the life of the mother.

Violent mental emotions are capable of disturbing the organs of the body, and so producing miscarriage. It is notorious that our physical condition is affected by the state of the mind. In the peculiarly sensitive condition of the pregnant woman, any extra-

ordinary excitement or depression, especially when produced suddenly, may therefore give rise to the evil of which I am speaking.

The force of habit on the part of the womb to expel the child at a certain period of pregnancy is the *most frequent* cause of miscarriage. What I mean is this : miscarriage having once occurred, from accident or any other cause, there is a tendency to its repetition. A woman goes on in a very promising way to a certain time, and then miscarries ; and again and again this occurs. Thus 'a habit' is induced on the part of the constitution of the individual to the production of this accident ; and then also slighter causes, applied at the period when miscarriage formerly happened, will be sufficient to induce it than would be required at another time.

Delicacy of constitution, arising from habits of indulgence, tends to produce miscarriage. In high and fashionable life, among those who use little exercise, live luxuriously, and sleep in soft warm beds, there is often produced a weak condition of the vessels which convey the blood from the parent for the nourishment of the child ; and the increased impetus and force given to the circulating fluid, induced by these habits, detaches one or more of these vessels, so that the supply necessary for the growth of the child is cut off—and it withers, dies, and is expelled.

In a naturally robust and vigorous constitution, a similar course of indulgence may produce a similar result, viz. miscarriage ; but then it will be under somewhat different circumstances. An increased quantity of blood is made, more than is compatible with health ; it is propelled, as a consequence, with unnatural power through the vessels of the body ; the vessels of the

womb participate in the irresistible vehemence of this action ; and if they do not suddenly give way, a sensation of weight and tension is experienced about these parts, with shooting pains about the loins, hips, and in the neighbourhood, which symptoms, if not relieved by appropriate medical treatment, will speedily be followed by rupture of the vessels, and finally by miscarriage.

Lastly, a peculiarly excitable state of constitution ; continuing to be unwell during pregnancy ; marrying late in life ; piles, in an inflamed state ; as also severe and large loss of blood, from their rupture—these, and some other causes to which it is unnecessary to refer, may give rise to this accident.

The Means to be adopted for its Prevention.—This subject divides itself into two parts ; viz. the plan to be followed for preventing miscarriage by those who are subject to it, and the means of arresting miscarriage when it is actually threatened.

Sect. 1.—The Plan to be followed for preventing Miscarriage by those who are subject to it.

This plan has reference to two distinct periods : *before* the woman becomes again pregnant, and *after* she conceives. And I may illustrate the subject in two kinds of constitution, widely differing from each other, and requiring, in part, rules and directions directly opposite :—

1. The plan to be adopted by a woman of delicate and feeble health and spare habit.

Before she again becomes pregnant her object should be to invigorate her general health, especially

that of the uterine organs. Much may be done to this end by medicine, which in many cases will be positively necessary ; but much more will be accomplished by attention to the general measures of health.

The stomach and bowels must be carefully regulated. If there is much debility of the former, manifested by little or no appetite, and uneasiness and sense of weight after taking a meal, great benefit will arise from taking three times a day a pill consisting of sulphate of iron $1\frac{1}{2}$ grain ; sulphate of quinine 1 grain, extract of gentian 2 grains. This will not only strengthen the stomach and increase its digestive power, but at the same time sharpen the appetite. It may be pursued for some weeks, and then only continued once a day about an hour before dinner. The regulation of the bowels is of much importance : there will be a tendency to costiveness ; and if active purgatives are resorted to, they inevitably do mischief, irritating and weakening the local organs, and thus add to the disposition to abortion. Much aperient medicine will not be required if the general means of health are strictly observed. The sitz-bath, to which allusion will be presently made, will sometimes alone secure the desired object. Should additional aid be demanded, an enema of a pint of cold water or lukewarm gruel may be administered on rising, followed by a table-spoonful of castor-oil, three or four hours after, if found necessary ; or any of the means pointed out at page 79, if not found to produce irritation, may be adopted. Ever be cautious of taking much aperient medicine in this condition of health, since its repeated and continued use often keeps up the disposition to abortion, and frustrates the best directed efforts to prevent it. This remark applies with particular force to

all drastic purgatives, which, however mild in their character, irritate the lower bowel, and so its neighbouring organ, the womb.

The diet must be small in quantity at first, but nutritious in quality—mild animal food, as boiled chicken, game, mutton, and beef; these must be well masticated, and therefore eaten slowly. The meat of young animals, as veal and lamb, must be avoided, as also pork. Fish should be seldom taken, as it leaves a large quantity of excrementitious matter in the bowels. Mealy potatoes, or well-boiled rice, stale bread, or captain's biscuit, should be the only solid taken, with one kind of animal food, as the dinner meal; towards the conclusion of which a glass of claret or port wine may be added. Weak black tea, or cocoa made from the nibs, brown bread not-toasted, and a new-laid egg, are best adapted for breakfast; and cocoa, in preference to tea, in the evening.

Animal food may be taken twice a day, when the stomach has acquired sufficient power to digest it, but in moderate quantities, and certainly never at night. The wine, too, may be increased to two glasses; it should never be taken until the conclusion of the meal.

Lying on a couch after dinner, to induce sleep, does not at all assist digestion. Rest for a couple of hours is certainly necessary; but the time should be employed in conversation, or light reading, rather than the unrefreshing after-dinner doze. The patient must rise early and retire early; she must lie on a hair mattress; and there must be no further drapery about the bed than curtains at its head. The chamber ought to be large and airy.

A well-directed choice of bathing is of first importance. Of the morning baths referred to at page 27,

that should be selected which is found to agree best ; and, as a general rule, sponging, as there pointed out, will be most applicable. In connection with this, it is to the sitz or hip-bath that we must especially look for benefit. This bath, while it greatly invigorates, allays that irritability of the womb which is so frequently connected with the immediate causes of abortion ; and a steady perseverance in its use cannot be too strongly enforced. It should be commenced at a temperature of 65°, and gradually reduced to 55°. It should be used every day. The directions to which reference has already been made must be strictly followed.

It is not only necessary, however, to attend strictly to diet, and to the other means pointed out ; the patient must also adopt a regular system of exercise proportioned to her strength. It should be commenced by taking gentle exercise, on foot or in an open carriage, between breakfast and dinner. As the strength increases, the walk or drive may be extended, or horse exercise taken, never forgetting that it should always precede a meal, and never follow it, that the amount of it should be always far short of fatigue ; in a word, that the patient should always feel refreshed and invigorated by it.

A change of air is often very desirable, and affords one of the most powerful means of improving the general health. Climate has a powerful influence over the condition of the health, with which miscarriage is frequently connected—a damp and relaxing atmosphere hindering all other remedial measures. Cases have again and again occurred to me in which, though most obstinately resisting all treatment, a few months' residence in a dry part of the coast has proved happily

successful. In midsummer, autumn, and during the winter, a residence on the coast is best for such a patient; but in the spring and early part of the summer, inland is to be preferred.

And the last direction which has to be given here, and the observance of which is of great importance to those who have been the subjects of *habitual* miscarriage, is this—that the chance of pregnancy again occurring, until three months have elapsed from the last accident, must be strictly avoided.

By such a plan of proceeding, I feel confident the general health will be restored: the individual will no longer have a capricious appetite, foul tongue, disordered stomach and bowels; she will no longer rise in the morning unrefreshed by sleep, or retire to rest at night fatigued with the slightest exertion of the day; she will no longer find that she is losing her flesh by slow but progressive steps—she will have found out how to obtain health, and she will, if I mistake not, be careful to preserve it.

After the patient becomes pregnant, let every cause which might excite miscarriage be avoided. The principal causes have been pointed out. The patient must sleep alone—this is absolutely and imperatively necessary; there must be more care and attention than ever to diet and regulation of the bowels; and, above all, costiveness must be guarded against. The baths must be continued, and gentle exercise still taken, but fatigue carefully avoided. As the period approaches when miscarriage occurred before, let vigilance and attention to rule be redoubled. It is usual at this time for the patient to be strictly kept in the recumbent posture, and this for several weeks. This long-continued close confinement is generally prejudicial to the

general health, which reacts injuriously on the local organs. Now the employment of the sitz-bath does much to obviate this necessity for perfect rest. The gentle walks before and after the bath may be continued with safety. More at this period should not be attempted except riding in an easy carriage in the recumbent position when it can be secured. The patient should be kept lying down the remainder of the day, and in the open air when the weather will permit. She must retire to rest early, still using a mattress, and taking care that the bedroom be airy and well-ventilated. If the slightest pain or uneasiness is felt about the loins or hips, the medical attendant should be called in. When these symptoms subside, the recumbent position must still be continued, and the above directions carefully observed for six or seven weeks beyond the time miscarriage last occurred. At the expiration of that time I believe I may say the patient is *safe*; gestation will go on. The health is invigorated; and the womb, now strengthened through the general improvement and increased tone of the whole system, is not so irritable, and therefore is not so likely to throw off its contents. It is not so weak, and therefore does not flag as it did before, but is able to carry on those processes which are necessary for the continued life and perfecting of the offspring.

2. The plan to be followed by a woman of vigorous and robust health.

Before pregnancy takes place, the excitement and fulness of the system must be gradually reduced, at the same time that its general tone must in no way be impaired. The plan proposed is the following:—Let the bowels be regulated, keeping them slightly relaxed

with castor-oil, or Pullna water ; and if this is effected, no other medicine will be necessary. Let the quantity of food be diminished, taking sparingly of meat, selecting that kind only, and but once a day, to which reference was made before ; dining from vegetables rather than from animal food ; taking no wine or stimulant of any kind ; no fermented liquor, the beverage with dinner being water only. Fashionable hours and habits must be given up ; for they tend to keep up that excited state of the whole system which it ought to be the grand object to allay. Sleep in a large and airy room, with little clothes about the person, to prevent the accumulation of too much heat. Rise early. Use the salt-water shower or sponge-bath every morning, the quantity of the water being considerable, and from the first, cold ; observe the precautions before alluded to, in reference to rapidly drying the body. Take considerable, but regular, exercise between breakfast and dinner—horse exercise, if it can be accomplished, is best—but never to fatigue. Change of air is not absolutely necessary ; but in spring and the early part of the summer great benefit will arise from pursuing this plan. In midsummer and autumn the seaside is most desirable ; as bathing, instead of the shower-bath, may be employed in this case, with great advantage.

After pregnancy has taken place, the same precautions and hygienic measures must be continued, and as the *period approaches when miscarriage formerly occurred* care and attention must be more than ever exercised. The directions already given in the previous case must be rigidly followed out, especially in reference to any physical exertion. If slight pain in the back is experienced, it must not create alarm, but

it will be right at once to seek medical advice. If, however, the individual has acted up to the rules laid down for her guidance, both for *before* and *after* conception, miscarriage need not be feared; in all human probability the patient will go her full time, and thus be amply rewarded for all her continued care and little privations.

Sect. 2.—The Means which are to be employed to put a Stop to Miscarriage when it is threatened.

Now and then, particularly when it occurs for the first time, the whole process of a miscarriage does not occupy more than six or seven hours from the very earliest symptom of its approach to its final completion. But in by far the majority of cases, more especially when it has become ‘habitual,’ its progress is not terminated in as many days, or even weeks. When this is the case, it may evidently be divided into Three Stages. This arrangement will tend to set this important portion of my subject in a clearer light before the reader, and at the same time assist me considerably while pointing out, though with necessary brevity, those directions which are to be followed in the different stages of this accident.

The First Stage.—I shall speak of that as the ‘First Stage’ in which the child has as yet sustained no injury, and the symptoms are only those *menacing* miscarriage.

It commences usually by the woman experiencing a great depression of strength and spirits, without any assignable cause. She loses her appetite, and has a little fever. Pains about her loins and hips soon follow; these are at first transitory—they go and

come, and, after a while, increase in frequency. Or if the patient be of a strong and vigorous constitution, there will be an excited condition of the circulation, manifested by a full pulse, throbbing in the temples, followed by a smart headache, a hot skin, thirst, and no inclination for food, and united with pains in the loins, and a sense of weight and tension. These are so many symptoms *threatening* miscarriage, but of course much modified by the constitution and previous state of health of the individual. For instance, some will experience only an indistinct dull aching pain in the loins, with slight languor, continuing for many days without any other symptom; but if these feelings come on about the same period from conception at which miscarriage formerly occurred, it behoves the patient at once to attend to them, for, if she does not, she may depend upon it the same event will befall her, however apparently trifling and unimportant the symptoms may be considered.

If, then, any of the foregoing symptoms present themselves, the medical attendant ought *immediately* to be sent for. This is the time at which he can interfere with the most certain prospect of success; everything depends upon getting advice at a sufficiently early period. And the patient must feel *the imperative necessity of a strict and unvarying attention to the rules and regulations which are enjoined.*

It has already been intimated that, at the first approach of these symptoms, the female must at once retire to her bed. She must strictly confine herself to it, resting on a mattress, with few clothes upon her, no curtains about her bed. The diet must be most sparing—a little toast-and-water, lemonade, or thin gruel, tapioca, or sago; and whatever is taken must

be given cool. Some gentle aperient may be taken, if the bowels are costive. By this time, in all probability, the medical man will be at the bedside.

The Second Stage.—But suppose the patient has not heeded these symptoms; that she has thought nothing of a little pain in the back, &c., and, never having before miscarried, she has looked upon them as of no consequence; the local pains will increase in frequency and power, and soon a discharge of blood, in clots, will be discovered, or, if the loss of blood be greater, it will be of a bright colour. This indicates that a partial separation of the child has taken place, and brings us to what I call the ‘Second Stage.’

Now, although it must be apparent that, under these circumstances, the probability that the process of miscarriage will go on is much greater than in the former stage, still I have no hesitation in saying that even here it is frequently possible to check it. But in a situation so critical, it will require a prompt and vigorous practice on the part of the medical man, and an equally decided and vigilant conduct on the part of the patient herself; and let her recollect, when tempted to disobey the instructions she receives, because they may appear trifling or a little too rigorous, that no man who deserves her confidence would willingly lay down one rule too strict, or one injunction, the performance of which was unimportant; and remember also, that by *one* act of disobedience she may blast every hope of success, and thus throw away, at a single moment, the result of hours, nay of days and weeks, of careful and persevering deprivation. The only directions advisable for adoption before the medical man arrives are strict rest in bed.

A woman never ought, if the premonitory symptoms

have been present, to advance to this stage of the accident; but it may be brought about very quickly by the shock from a fall, or any great exertion, when the first and second stages will frequently merge into one—separation of some portion of the child having taken place from the first. Under these circumstances, let the above directions be followed, until further advice can be obtained.

The Third Stage.—If the previous means for stopping the progress of the threatened miscarriage are unsuccessful, if the discharge continues, the pains increase, become slightly bearing down, and the other signs follow which have before been pointed out, the ‘Third Stage’ is far advanced, and of course every expectation of success on the part of the patient or her attendant must have fled; and it only remains for the latter to conduct her safely through to the end, and afterwards adopt means for restoring her health and strength.

One remark, however, it is important to make here. Whenever miscarriage occurs as late as the *third* month, or at any time after this period, the strictest observance of the recumbent posture is as necessary after this accident has taken place as it is after delivery at the full period, particularly if there has been much discharge prior to the expulsion of the ovum. This direction will gain weight by my observing that very lately I was called to a case where discharge was a second time induced, and life nearly lost, owing to the neglect of this caution, the lady getting out of bed an hour or two after a miscarriage of between three and four months. And it may be useful also to add, that patients, after a miscarriage, generally go about too early. The womb at this time

being larger and heavier than in its natural state, this is likely to induce a 'falling down' of this organ—or the lesser evil, a troublesome attack of 'the whites;' both of which are avoided by keeping the recumbent posture for a week or ten days after a miscarriage.

The First Stage then, is one of *warning*; and, by improving it in time, a female ought never to miscarry.

The Second Stage is one of *hope*; and, with strict attention, that hope may be realised.

The Third Stage is one in which all means of prevention are useless; and therefore its treatment has not fallen under our notice. It must be left to the medical man, who, long before this, ought to have been called in.

CHAPTER V.

OF RECKONING, OR THE MODE OF TELLING
WHEN LABOUR MAY BE EXPECTED.

THE *time* when confinement may be expected, particularly if it be a first pregnancy, is naturally a matter of considerable interest and importance to the young married woman ; and it is certainly very desirable on all accounts that it should be as accurately determined as possible.

It is impossible, however, by what is popularly called 'reckoning,' or indeed by any other means, to ascertain the *exact* day upon which labour will take place. There are many circumstances which prevent this ; amongst others, the uncertainty connected with the duration of pregnancy itself. By some this period is limited to nine calendar months ; by others extended to ten lunar months ; thus the estimated time differs with different medical men.

And here in passing I would just observe that the duration of pregnancy is spoken of in some works, and not unfrequently by professional men in conversation, as lasting 'nine calendar months or forty weeks,' as if these periods were one and the same. This, however, it ought to be remembered, is not the fact, for there is a difference of nearly a week. Nine calendar months may be reckoned from 273 to 275 days, according to

the months of the year included ; while 40 weeks are equal to 280 days. This is an important point, and it too frequently escapes the recollection of many persons.

I believe the best way to meet the difficulty just mentioned, is to allow 40 weeks, or 280 days, from the day after the last day of the woman being unwell. Let her take this as a rule, and calculate by it, and she will most commonly be right. When consulted upon this matter, I ask my patient when she was last unwell ? how long she continued so ? and from the day of its termination I reckon 40 weeks. Thus a woman tells me she was taken unwell on the 28th of December, and continued so four days ; I add one more, and from this day, being the 1st of January, I reckon 40 weeks, and conclude that she will fall in labour on the 8th of October, *a day or two before or after*. I say a day or two before or after, because it is impossible to decide the matter to an hour or a day, for, as has been before observed, the duration of pregnancy itself is not absolutely certain : it may in some women be more, in others less than the time above specified. But I believe the above method will fix the time as near to the event as is possible, and, in truth, as near to certainty as ought to be wished. For it must be obvious that, although it is important that the female should know to a day or two when she may expect to be confined, to be acquainted with the exact day or hour for many weeks before that event is anything but desirable ; and therefore it is benevolently hidden.

Sometimes, when asking the question, 'When were you last unwell ?' in order to determine the time when labour may be expected, the patient replies, 'I have forgotten ; I am very sorry, but I can't remember !' This leads me to suggest that it would be well for

every married woman to register, monthly, this event, so that if she becomes pregnant, and this function ceases, she may know the exact day when it did so.

For the purpose of facilitating reckoning, the following tables have been made. The mode of using them needs but little explanation. Suppose a lady is taken unwell on the 28th of December, and continues so till the 31st, the reckoning must then commence on the day following—the 1st of January. Look for this date in the first column of the January table; and the corresponding dates of quickening and labour will be found much in the same line; that is to say, she will quicken about the 20th of May, and be confined about the 8th of October.

The date of the last period, however, may not be recollected; or other circumstances, referred to at length in the second chapter of this work, may be present, which may throw a woman out of her reckoning altogether. If such should exist, she must wait till the quickening occurs, and then look for that date in the middle column of the tables, and she will find the respective dates of the beginning and end of pregnancy on the same line. We will suppose, for the sake of illustration, the quickening to take place on the 20th of May: she must look for the table in which May stands in the *middle* column (viz. the January table); and it will be seen that the confinement may be expected on the 8th of October. This, however, is at best but an uncertain mode of calculation, since the period of quickening varies very much; but it is the only one I have to offer.

JANUARY.

Date of becoming Pregnant		Date of Quickening		Date of expected Confinement	
JANUARY	1	MAY	20	OCTOBER	8
...	2	...	21	...	9
...	3	...	22	...	10
...	4	...	23	...	11
...	5	...	24	...	12
...	6	...	25	...	13
...	7	...	26	...	14
...	8	...	27	...	15
...	9	...	28	...	16
...	10	...	29	...	17
...	11	...	30	...	18
...	12	...	31	...	19
...	13	JUNE	1	...	20
...	14	...	2	...	21
...	15	...	3	...	22
...	16	...	4	...	23
...	17	...	5	...	24
...	18	...	6	...	25
...	19	...	7	...	26
...	20	...	8	...	27
...	21	...	9	...	28
...	22	...	10	...	29
...	23	...	11	...	30
...	24	...	12	...	31
...	25	...	13	NOVEMBER	1
...	26	...	14	...	2
...	27	...	15	...	3
...	28	...	16	...	4
...	29	...	17	...	5
...	30	...	18	...	6
...	31	...	19	...	7

FEBRUARY.

Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
FEBRUARY 1	JUNE 20	NOVEMBER 8
... 2	... 21	... 9
... 3	... 22	... 10
... 4	... 23	... 11
... 5	... 24	... 12
... 6	... 25	... 13
... 7	... 26	... 14
... 8	... 27	... 15
... 9	... 28	... 16
... 10	... 29	... 17
... 11	... 30	... 18
... 12	JULY 1	... 19
... 13	... 2	... 20
... 14	... 3	... 21
... 15	... 4	... 22
... 16	... 5	... 23
... 17	... 6	... 24
... 18	... 7	... 25
... 19	... 8	... 26
... 20	... 9	... 27
... 21	... 10	... 28
... 22	... 11	... 29
... 23	... 12	... 30
... 24	... 13	DECEMBER 1
... 25	... 14	... 2
... 26	... 15	... 3
... 27	... 16	... 4
... 28	... 17	... 5

MARCH.		
Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
MARCH 1	JULY 18	DECEMBER 6
... 2	... 19	... 7
... 3	... 20	... 8
... 4	... 21	... 9
... 5	... 22	... 10
... 6	... 23	... 11
... 7	... 24	... 12
... 8	... 25	... 13
... 9	... 26	... 14
... 10	... 27	... 15
... 11	... 28	... 16
... 12	... 29	... 17
... 13	... 30	... 18
... 14	... 31	... 19
... 15	AUGUST 1	... 20
... 16	... 2	... 21
... 17	... 3	... 22
... 18	... 4	... 23
... 19	... 5	... 24
... 20	... 6	... 25
... 21	... 7	... 26
... 22	... 8	... 27
... 23	... 9	... 28
... 24	... 10	... 29
... 25	... 11	... 20
... 26	... 12	... 31
... 27	... 13	JANUARY 1
... 28	... 14	... 2
... 29	... 15	... 3
... 30	... 16	... 4
... 31	... 17	... 5

APRIL.

Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
APRIL 1	AUGUST 18	JANUARY 6
... 2	... 19	... 7
... 3	... 20	... 8
... 4	... 21	... 9
... 5	... 22	... 10
... 6	... 23	... 11
... 7	... 24	... 12
... 8	... 25	... 13
... 9	... 26	... 14
... 10	... 27	... 15
... 11	... 28	... 16
... 12	... 29	... 17
... 13	... 30	... 18
... 14	... 31	... 19
... 15	SEPTEMBER 1	... 20
... 16	... 2	... 21
... 17	... 3	... 22
... 18	... 4	... 23
... 19	... 5	... 24
... 20	... 6	... 25
... 21	... 7	... 26
... 22	... 8	... 27
... 23	... 9	... 28
... 24	... 10	... 29
... 25	... 11	... 30
... 26	... 12	... 31
... 27	... 13	FEBRUARY 1
... 28	... 14	... 2
... 29	... 15	... 3
... 30	... 16	... 4

MAY.		
Date of becoming Pregnant		Date of Quickening
Date of expected Confinement		
MAY	1	SEPTEMBER 17
...	2	... 18
...	3	... 19
...	4	... 20
...	5	... 21
...	6	... 22
...	7	... 23
...	8	... 24
...	9	... 25
...	10	... 26
...	11	... 27
...	12	... 28
...	13	... 29
...	14	... 30
...	15	OCTOBER 1
...	16	... 2
...	17	... 3
...	18	... 4
...	19	... 5
...	20	... 6
...	21	... 7
...	22	... 8
...	23	... 9
...	24	... 10
...	25	... 11
...	26	... 12
...	27	... 13
...	28	... 14
...	29	... 15
...	30	... 16
...	31	... 17
		FEBRUARY 5
		... 6
		... 7
		... 8
		... 9
		... 10
		... 11
		... 12
		... 13
		... 14
		... 15
		... 16
		... 17
		... 18
		... 19
		... 20
		... 21
		... 22
		... 23
		... 24
		... 25
		... 26
		... 27
		... 28
		MARCH 1
		... 2
		... 3
		... 4
		... 5
		... 6
		... 7

JUNE.

Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
JUNE 1	OCTOBER 18	MARCH 8
... 2	... 19	... 9
... 3	... 20	... 10
... 4	... 21	... 11
... 5	... 22	... 12
... 6	... 23	... 13
... 7	... 24	... 14
... 8 ✓	... 25	... 15
... 9	... 26	... 16
... 10	... 27	... 17
... 11	... 28	... 18
... 12	... 29	... 19
... 13 ✓	... 30	... 20
... 14	... 31	... 21
... 15	NOVEMBER 1	... 22
... 16	... 2	... 23
... 17	... 3	... 24
... 18	... 4	... 25
... 19	... 5	... 26
... 20	... 6	... 27
... 21	... 7	... 28
... 22	... 8	... 29
... 23	... 9	... 30
... 24	... 10	... 31
... 25	... 11	APRIL 1
... 26	... 12	... 2
... 27	... 13	... 3
... 28	... 14	... 4
... 29	... 15	... 5
... 30	... 16	... 6

JULY.		
Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
JULY 1	NOVEMBER 17	APRIL 7
... 2	... 18	... 8
... 3	... 19	... 9
... 4	... 20	... 10
... 5	... 21	... 11
... 6	... 22	... 12
... 7	... 23	... 13
... 8	... 24	... 14
... 9	... 25	... 15
... 10	... 26	... 16
... 11	... 27	... 17
... 12	... 28	... 18
... 13	... 29	... 19
... 14	... 30	... 20
... 15	DECEMBER 1	... 21
... 16	... 2	... 22
... 17	... 3	... 23
... 18	... 4	... 24
... 19	... 5	... 25
... 20	... 6	... 26
... 21	... 7	... 27
... 22	... 8	... 28
... 23	... 9	... 29
... 24	... 10	... 30
... 25	... 11	MAY 1
... 26	... 12	... 2
... 27	... 13	... 3
... 28	... 14	... 4
... 29	... 15	... 5
... 30	... 16	... 6
.. 31	... 17	... 7

AUGUST.

Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
AUGUST 1	DECEMBER 18	MAY 8
... 2	... 19	... 9
... 3	... 20	... 10
... 4	... 21	... 11
... 5	... 22	... 12
... 6	... 23	... 13
... 7	... 24	... 14
... 8	... 25	... 15
... 9	... 26	... 16
... 10	... 27	... 17
... 11	... 28	... 18
... 12	... 29	... 19
... 13	... 30	... 20
... 14	... 31	... 21
... 15	JANUARY 1	... 22
... 16	... 2	... 23
... 17	... 3	... 24
... 18	... 4	... 25
... 19	... 5	... 26
... 20	... 6	... 27
... 21	... 7	... 28
... 22	... 8	... 29
... 23	... 9	... 30
... 24	... 10	... 31
... 25	... 11	JUNE 1
... 26	... 12	... 2
... 27	... 13	... 3
... 28	... 14	... 4
... 29	... 15	... 5
... 30	... 16	... 6
... 31	... 17	... 7

SEPTEMBER.

Date of becoming Pregnant		Date of Quickening		Date of expected Confinement	
SEPTEMBER	1	JANUARY	18	JUNE	8
...	2	...	19	...	9
...	3	...	20	...	10
...	4	...	21	...	11
...	5	...	22	...	12
...	6	...	23	...	13
...	7	...	24	...	14
...	8	...	25	...	15
...	9	...	26	...	16
...	10	...	27	...	17
...	11	...	28	...	18
...	12	...	29	...	19
...	13	...	30	...	20
...	14	...	31	...	21
...	15	FEBRUARY	1	...	22
...	16	...	2	...	23
...	17	...	3	...	24
...	18	...	4	...	25
...	19	...	5	...	26
...	20	...	6	...	27
...	21	...	7	...	28
...	22	...	8	...	29
...	23	...	9	...	30
...	24	...	10	JULY	1
...	25	...	11	...	2
...	26	...	12	...	3
...	27	...	13	...	4
...	28	...	14	...	5
...	29	...	15	...	6
...	30	...	16	...	7

OCTOBER.

Date of becoming Pregnant		Date of Quickening	Date of expected Confinement	
OCTOBER	1	FEBRUARY	JULY	8
...	2	...	...	9
...	3	...	...	10
...	4	...	...	11
...	5	...	...	12
...	6	...	...	13
...	7	...	...	14
...	8	...	...	15
...	9	...	...	16
...	10	...	...	17
...	11	...	...	18
...	12	...	...	19
...	13	MARCH	...	20
...	14	...	...	21
...	15	...	...	22
...	16	...	...	23
...	17	...	...	24
...	18	...	...	25
...	19	...	...	26
...	20	...	...	27
...	21	...	...	28
...	22	...	...	29
...	23	...	...	30
...	24	...	...	31
...	25	...	AUGUST	1
...	26	...	...	2
...	27	...	...	3
...	28	...	...	4
...	29	...	...	5
...	30	...	...	6
...	31	...	...	7

NOVEMBER.

Date of becoming Pregnant		Date of Quickening		Date of expected Confinement	
NOVEMBER	1	MARCH	20	AUGUST	8
...	2	...	21	...	9
...	3	...	22	...	10
...	4	...	23	...	11
...	5	...	24	...	12
...	6	...	25	...	13
...	7	...	26	...	14
...	8	...	27	...	15
...	9	...	28	...	16
...	10	...	29	...	17
...	11	...	30	...	18
...	12	...	31	...	19
...	13	APRIL	1	...	20
...	14	...	2	...	21
...	15	...	3	...	22
...	16	...	4	...	23
...	17	...	5	...	24
...	18	...	6	...	25
...	19	...	7	...	26
...	20	...	8	...	27
...	21	...	9	...	28
...	22	...	10	...	29
...	23	...	11	...	30
...	24	...	12	...	31
...	25	...	13	SEPTEMBER	1
...	26	...	14	...	2
...	27	...	15	...	3
...	28	...	16	...	4
...	29	...	17	...	5
...	30	...	18	...	6

DECEMBER.

Date of becoming Pregnant	Date of Quickening	Date of expected Confinement
DECEMBER 1	APRIL 19	SEPTEMBER 7
... 2	... 20	... 8
... 3	... 21	... 9
... 4	... 22	... 10
... 5	... 23	... 11
... 6	... 24	... 12
... 7 ✓	... 25	... 13
... 8	... 26	... 14
... 9	... 27	... 15
... 10	... 28	... 16
... 11 —	... 29	... 17
... 12	... 30	... 18
... 13	MAY 1	... 19
... 14	... 2	... 20
... 15	... 3	... 21
... 16	... 4	... 22
... 17	... 5	... 23 ✓
... 18	... 6 ✓	... 24
... 19	... 7	... 25
... 20	... 8	... 26
... 21	... 9	... 27
... 22	... 10	... 28
... 23	... 11	... 29
... 24	... 12	... 30
... 25	... 13	OCTOBER 1
... 26	... 14	... 2
... 27	... 15	... 3
... 28	... 16	... 4
... 29	... 17	... 5
... 30	... 18	... 6
... 31	... 19	... 7

CHAPTER VI.

HINTS FOR THE LYING-IN ROOM REFERRING TO THE MOTHER.

Sect. 1.—The Period previous to Labour.

Of Labour itself, and the use of Chloroform.—Dread of suffering, and anxiety for her safety, are the two feelings which predominate in the minds of most women in anticipation of labour. If they knew how wonderfully their organisation is in all respects adapted to the end designed, their fears would be changed into calm and confident reliance upon Him who has so created it. The process of *natural* labour displays the most exquisite adjustment of means to ends. It is impossible not to see how conspicuously the *safety* of the mother has been provided for; and how admirably, in every circumstance of the entire process, her powers have been proportioned, and her capability of exertion fitted, to the necessities of the case. The late Dr. Denman, one of the most practical and eminent physician accoucheurs of his day, says, ‘Your safety in childbirth is insured by more numerous and powerful resources than under any other circumstances, though to appearance less dangerous.’ Harvey, the immortal discoverer of the circulation of the blood, referring to this subject, observes, ‘Yet this

is not more worthy of admiration than the other works of nature, "for all things are full of God," and the Deity of nature is ever visibly present.'

Such facts are surely calculated to remove unnecessary apprehension, and particularly that undefined dread which all women suffer under, more or less, when looking forward to labour for the first time. Weigh these thoughts well, and they will tend greatly to strengthen and fortify the mind in prospect of that measure of suffering which is inevitable, and to relieve it of that needless anxiety respecting the result to which inexperience and the idle gossip of the ignorant may have given rise.

The amount of *suffering* to be endured is uncertain, being unequal in different women, and in the same women in different labours. I have known cases, and have heard and read of others, in which the patient declared she had no pain—there was a sensation of bearing down, and the child, to the amazement of the mother, was born. These are exceptions to the general rule, as are those of the opposite kind, viz. of excessive suffering. In the majority of cases the pain endured lies, of course, between these two extremes. My experience, therefore, in the lying-in room, is not in accordance with that of some, who speak of the pains of labour as *usually* characterised by great suffering and anguish, and in the last stage as 'absolutely indescribable.' Happily, as far as I have observed, such cases are the exceptions. I desire to impress this fact strongly upon the reader's mind. Indeed to use terms of exaggeration upon such a subject is likely to be most mischievous, as it is certainly in effect most cruel.

One would almost fancy that, since chloroform has

come into use, the process of labour has acquired an intensity of suffering, which, before, it was never thought to possess. I can only account for this by the supposition that the magnitude of the evil has been unconsciously exaggerated in the effort to make the virtues of the remedy the more conspicuous. I fear the diffusion of erroneous estimates of the suffering endured may cause a great amount, in this *natural* process, of unnecessary mental distress; and I feel it, therefore, the more necessary to affirm my honest belief in the opinions expressed above, being desirous that my readers should not be robbed of the encouragement and comfort which, if well founded, they are so calculated to impart.

It is unnecessary to describe chloroform. Every one is aware that, in 1847, a substance was reported to have been found that would annihilate the pains of labour. The announcement was welcomed by the public with feelings of thankful joy and wonder. Expectant mothers became greatly excited and interested, anxiously inquiring as to the efficacy and safety of the drug, and many earnestly importuning for its use. Being affirmed that it was perfectly safe, and that it in no way interfered with the process of parturition many professional men *at once* adopted the remedy, and employed it in almost all cases.

The author of this work, in his early editions, wrote a chapter on chloroform. No doubt this was a wise and useful addition to the book so long as the use of chloroform was little understood. Now all this is changed; and the Editor of the present edition thinks it better to leave the matter of chloroform, the indications for its use, and the mode of its administration, in the hands of the medical practitioner; he will advise

when and how the drug shall be administered. I need only say that although *the risk of accidents* is very small, yet *that it does exist*, and that under these circumstances chloroform may not be used indiscriminately. I will especially caution against the self-administration of this dangerous drug. It will still be fresh in the memory of my readers that a most painful calamity recently occurred from the self-administration of this anæsthetic (November, 1875). One of the leading medical journals, in commenting on this case says: ‘The unskilled person, who indulges in these narcotics for the relief of pain, or as a nervous sedative, on his own responsibility, takes an immeasurable risk, of which the fatal consequences are but too often shown publicly by sudden death.’

I am bound, however, to admit, that there is less risk from chloroform during a prolonged or difficult labour, than perhaps under any other circumstances or conditions; and I would advise, therefore, *whenever the medical attendant counsels its administration*, that the patient willingly and cheerfully submit herself to its influence, fully relying, as she may do, that it will not be recommended unless there is some great need for its use.

Symptoms of Labour approaching.—For some time before the commencement of actual labour a variety of changes is taking place, which nature is making preparatory to the process itself. Of these, however, the female knows nothing, except indeed of one change, which becomes marked and evident enough in most cases, viz. an alteration in the form and size of the abdomen. This is sometimes so considerable, that a woman often appears, and really is, less in the ninth than in the eighth month of pregnancy. This *sub-*

sidence of the abdomen arises in part from the fact of the child being situated lower than formerly ; it sinks down. This change takes place either gradually and therefore imperceptibly, from day to day, while yet it is sufficiently obvious after the lapse of several ; or suddenly, during the course of one night. It may appear some days before labour ; oftener however, only a few hours before its commencement.

It is an useful symptom, affording to the medical attendant satisfactory information, and pointing out to the patient that her labour is not far off. And it is attended with certain effects, in part agreeable, and in part productive of discomfort : agreeable, because the woman now feels lighter and more alert, and breathes with more ease and comfort than she has done for weeks past, and her night's rest, consequently, is less interrupted and far more refreshing to her ; attended with discomfort, because the child being lower, the bladder and lower bowel are somewhat pressed upon, and an irritable condition of one or both may arise.

Many women are subject, towards the close of pregnancy, to pains which, in their situation, continuance, and recurrence, so much resemble those of labour, that, though in reality of a different kind, an individual who has even had many children may not be able to distinguish them. These are called '*False or spurious pains.*' They will be situated in the back and bowels, passing round to the loins, and descending to the hips and thighs, going and coming like labour-pains. They are sometimes attended with an involuntary effort to press down, when they bear so close a resemblance to the pains of an advanced stage of labour as not only to make a woman believe that labour is commenced, but that she is about to be delivered.

They may come on ten days or a fortnight previous to actual labour, and may continue irregularly until that period ; which circumstance explains those cases we occasionally hear of where women are said to be in labour ten days or more, when, in all probability, they were not really in labour half the number of hours.

Again, before a first labour, false pains frequently occur, last for some hours, and are then followed by actual labour, which is thus made to appear a very long, tedious, and wearisome process to a young female who is entirely ignorant of the matter ; when, in fact, the labour perhaps was, for a first, of fair average duration.

As they may be produced by a disturbed condition of the bowels, from flatulence, costiveness, or an attack of diarrhœa—also from great physical fatigue, or mental excitement—all these causes ought to be carefully avoided ; and if an attack comes on, medical aid must at once be sought.

Attendants.—It is well to have the *nurse* in the house a few days before confinement is expected. Some ladies, I know, object to this. I think it an unwise objection. Suppose labour comes on suddenly in the middle of the night, and proceeds rapidly. Until the medical man and the nurse arrive the patient has the assistance only of young and ignorant servants, who can give neither comfort nor help. This is surely not a very enviable position to be placed in ; and as it is easily avoided, it ought to be.

The well-doing of the patient during the lying-in month so much depends upon the nurse, that she ought not to be hastily or thoughtlessly chosen ; and none are justified in recommending an individual for this important duty unless they are personally acquainted

with her fitness for the office. Too little attention is usually paid to this point; and although the lying-in room is not to be considered a sick-room, still its duties require quite as much vigilance and attention, or it will otherwise inevitably assume that character.

Serious and important are the duties which devolve upon the monthly nurse; and well would it be for English women if all who undertake this office came from a better-educated class of society than they too often do. Ignorance and coarseness of manner are unbearable in a nurse; it is dangerous for the medical man to have such a person to carry out his measures, while she is certainly anything but a fit companion for the patient, who nevertheless has almost no other for two or three weeks.

✓ A nurse should be intelligent (that is, possess good common sense, and have made good use of it), so that she may be able fully to comprehend and remember the directions and wishes of the medical man; tender in her mode of carrying those directions into effect, and gentle in her general manner; active, and physically able to do all that is required of her; and, lastly, vigilant, that she may quickly discern the approach of symptoms (if they should arise) that demand the attendance of the physician. It is well, too, when she has been a mother herself, that she may be able, from experience, to sympathise with that class of suffering she is called upon to alleviate.

Deafness in a nurse is a great evil. However able in other respects (and they are generally a most willing class of persons), this infirmity renders her decidedly unfit for the lying-in chamber. Amongst other reasons, the difficulty of arousing a deaf person in the middle of the night, when perhaps in a deep sleep, has been again and again experienced as a great annoyance.

The *friend* that is to be present should also be sent for now. The young married woman usually and naturally enough selects her mother as the friend to be present during her labour. If the ties of affection were the sole criterion of fitness for this duty, then indeed the choice would be wise, and the offices required be admirably performed. But inasmuch as self-possession and the most perfect command of the feelings are as essential in the attendants of the lying-in room as kindness of disposition and tenderness of behaviour, so the parent will pause before she ventures upon the task. If assured that her feelings are not likely to betray her judgment, then her presence will be a source of great comfort to the patient, and a relief to the medical man; but if not, it would be cruel of her to undertake the office, and a confidante must be selected in some judicious and affectionate married friend, whose presence during the hour of trial will insure sympathy and yet encouragement.

Always send for *the medical man* as soon as any symptom of labour comes on. Whether it be necessary for him to remain in the house or not, he will determine. It is true there is little fear of his being too late in his arrival in the lying-in room, if it be a first labour; though even this may occur, for such labour may be unusually rapid, though it is rarely so. There is no saying, however, how quick after-labours may be; and, therefore, an early summons is safest and best. This observation is made because it not unfrequently happens that a patient, recollecting that her former and first labour was tedious, and unwilling needlessly to occupy her professional man's time, hesitates to send for him. Meanwhile her labour may suddenly and rapidly advance, and the child, contrary to all

expectation, be born before the arrival of the accoucheur. When the first positive signs of labour, then, show themselves, send for the medical attendant, and he can determine on the propriety of remaining or otherwise.

During the labour, the medical man, the nurse, and the patient's friend, are all the assistance the occasion demands. The lying-in room is not the place for a crowd. A great number of persons breathing the atmosphere of the same room soon pollute it; and if there happen to be a fire, its temperature will evidently be raised to a point which will make the patient restless and feverish, and add to her feelings of fatigue; and this again, by rendering the pains irregular or ineffective, will often needlessly protract the labour. The patient also is much disturbed by the conversation which is going on; and, what is a much greater evil than this, the imprudent remarks which are frequently made diminish her confidence in her own powers, and sometimes also in the skill and judgment of her necessary attendants. The conversation of such persons too often turns upon the long and tedious labours said to be witnessed elsewhere, the details of which of course lose nothing by repetition. This is most injudicious, and injurious to the patient's state. It inevitably produces an unfavourable impression on her mind, and creates doubts and fears as to the result of her own labour which otherwise would never have arisen. This has the invariable and immediate effect of diminishing the force and frequency of the labour-pains, and sometimes of suppressing them altogether for many hours. Such subjects ought never to be alluded to in the lying-in chamber. The conversation ought ever to be cheerful and encouraging; and there

can be no possible reason why it should be otherwise. The hope of a happy, and it may be speedy, termination to her sufferings should ever be kept in the view of the patient. It will inspire her with an activity and resolution which will have a most useful and favourable influence upon her situation. There is no fear, however, of such persons or topics being introduced into the lying-in room, if the previous advice in reference to the individuals to be selected for this occasion is only acted upon.

I have repeatedly seen the bad effects of a hot and crowded room. I have often been called up in consultation in the night to a labour, which, considering the time it commenced, would have terminated in the day, had it not been protracted by the causes now adverted to. In one of these cases I counted in the lying-in room, and that by no means a large one, as many as half-a-dozen people, who, by the help of a large fire, had rendered the atmosphere so heated and impure, that one would have thought that everybody not necessitated to remain by duty would have been glad to get out of it as soon as possible. To make matters worse for the patient, she was half-buried in a soft feather-bed, while a friend, if not two, were on the bed for the alleged purpose of supporting her *back*: for supporting her *strength*, cordials had been from time to time administered. This state of things having existed for hours, with the talking and gossip, and anxious looks of the friends, it is not very wonderful that the patient's strength had become entirely exhausted, her mind depressed, and the natural progress of the labour so interrupted, that artificial assistance had at last been thought necessary. Such assistance, however, was not required, as it seldom is; and the

remedies were as simple as they were successful. I put out the fire, and the friends too. I relieved the patient's mind of its heavy burden by fairly explaining to her how her present condition had been brought about, and by confidently and truly assuring her of a successful issue of her labour. Rest and perfect quiet were then obtained; and after a little while, the apartment having become cool, she fell into a refreshing slumber. By-and-by she was aroused by labour-pains, which had been impeded and almost suspended by the former mismanagement; they became vigorous and frequent, and after a while the case terminated naturally and safely.

Such a case as the one just related is by no means a solitary one; and though the state of the lying-in room may not often be quite so bad as the above described, it often approximates to it. These cases are generally talked of afterwards by the friends who have been present, as severe and alarming: they always forget to add one fact—that if so, they themselves were the cause of it.


I must not omit to state that I have witnessed the injurious effects of communicating distressing intelligence to a patient in labour. Whatever may happen, let it not reach the lying-in room. Mental excitement of any kind tends to disturb and interrupt the favourable process of child-birth; and the same remark applies with equal force to the early days after delivery.

✓ *Every requisite* which is necessary for a lying-in chamber should at this time be in its place, and ready for use. It is unnecessary to detail minutely what is required. The skin of leather, or a large sheet of oil-skin for guarding the bed, or, which is preferable,

the Mackintosh sheeting; the dressing-gown for the patient to wear in the early parts of labour, and the other portions of dress detailed under the section 'Dress;' the broad bandage; the small horse-hair cushion for a later period of labour, to be firmly secured to the post of the bed for the feet to press against; pomatum or lard; a skein of strong sewing thread; the flannel receiver, and a plentiful supply of linen generally; the wooden bath, referred to in the next chapter (page 186)—these, and other things which will naturally suggest themselves to all persons familiar with a lying-in room, should all now be in readiness.

The Bedroom.—The bedroom of a lying-in patient should be large and airy, and, if possible, communicate with another room. It should have a fireplace for fire in winter, which in the summer should be made in the adjoining apartment. Of all rooms in the house it should be the room least exposed to noise.

The proper ventilation of the lying-in room throughout the month (as much so as during the labour) must be carefully attended to. The air must be kept cool and fresh; its temperature never allowed to exceed 60° of Fahrenheit; and nothing that would render the atmosphere impure must be permitted to remain in the room one moment longer than necessary. There can be no doubt that one of the principal sources of those diseases of the lying-in room which in former times were so prevalent in this country, was the impure and heated air, together with the smothering system then pursued. The prejudices in which that system originated are not altogether laid aside in the present day; and the medical man's directions upon this subject are too frequently disregarded. I am



continually obliged upon entering the bedroom to draw aside the curtains, to open the door, or order the fire to be kept low, that a hot room may be made bearable.

The bed should have only so much hangings about it as will serve to protect the patient from draught; they should be of a light character; the old-fashioned woollen curtains, being too heavy and too heating, ought to be quite discarded.

X **Aperient Medicine.**—As labour approaches, the bowels should invariably be cleared by some aperient; or consequences exceedingly disagreeable to a delicate woman will inevitably occur at the latter stage of the labour. A table-spoonful of castor-oil is the best medicine for this purpose, particularly if the bowels have already been confined a day or two, and there appears to be sufficient time for its operation. If, however, labour has commenced, by no means take aperient medicine, but use the lavement—the injection to consist of one pint of warm thin gruel or barley-water, with two table-spoonfuls of castor-oil.

Sect. 2.—The Period during the Process of Labour.

The Bed.—As the patient is to lie on her *left* side, the bed must be so placed that she may be either at the foot, or on the right side of the bed. Many prefer the foot, because the foot-post serves to support the feet during what is called the second stage of labour; but then this post should have a *small hair cushion* secured firmly to it by straps, for the feet to press against, otherwise they will be found tender and fretted subsequent to labour.

Where there is both a mattress and bed, it is better for the mattress to be uppermost. The patient

in a feather-bed is likely to sink into a hole, which is inconvenient to the attendant, and keeps the patient too hot and close.

And, next, the bed must be 'guarded,' as it is popularly called ; that is, so arranged as to preserve it with certainty from being soiled or injured. The method of doing this is very simple. A piece of American oil-cloth, or of Mackintosh sheeting, is to be spread over the mattress, and on this a blanket doubled in four, which is to be covered with a sheet, upon which the patient lies on her left side ; and lastly, a sheet, blanket, &c., is to be thrown over her person, as the season of the year may determine. Patients are frequently too warmly covered by the nurse ; this relaxes and weakens, when strength is of so much consequence.

It is a common practice on the Continent to deliver a woman on one bed, and immediately after to remove her to another. This plan is sometimes adopted in this country. It is only necessary to observe that such a mode of procedure incurs much danger.

The Dress.—When the pains of labour first commence, the dress should be so arranged that if its progress becomes suddenly rapid, it may be readily changed.

A loose dressing-gown is best in the earlier part of the labour. This must be exchanged, when the patient lies down for good, for a chemise and bedgown folded up smoothly to the waist, and a flannel petticoat without shoulder-straps, that it may afterwards be readily removed.

A broad bandage, too, must be passed loosely round the abdomen as the labour advances to its close ; and its application must not be left until after the delivery,

for it then would be attended with some difficulty and some risk. Neither must its use, on any account, be omitted altogether, as the most serious consequences have frequently resulted from such neglect. The breadth will depend upon the size of the woman ; but it should be wide enough to extend from the chest to the lower part of the stomach. The best thing is a new and sufficiently large towel ; for although a proper belt (to which we shall refer shortly) must be eventually applied, there are obvious reasons why this is not advisable immediately after delivery.

Some persons suppose that wearing their stays during labour assists them, affording support ; but they are improper, being rather in the way than useful.

Shivering.—Rigors are very common during the early part of labour, varying in degree from a gentle tremor to an agitation of the frame so violent as to shake the bed on which the patient rests. It is most desirable that this should be known, lest it should produce alarm, for which there is not the slightest ground. I am acquainted with one lady where this symptom always ushers in her labour, which is quickly and easily accomplished.

Warm diluting drinks may be given—as tea, a cup of coffee, or plain gruel ; but wine, or spirits and water, must be absolutely forbidden : they are unnecessary, and are always productive of fever and subsequent mischief.

Vomiting.—An inclination to be sick, followed by actual vomiting, is one of the most frequent occurrences attending the *early* part of labour.

It may be produced by the close sympathy which exists between the stomach and the womb ; but an

overloaded stomach is a more frequent cause. In either case it is useful : in the latter it clears the stomach of improper food ; in the former, the practitioner is sometimes very sensible of the good effects arising from it in forwarding the labour. It is an every-day saying of a monthly nurse, ' that one fit of vomiting has more effect than six pains ; ' and there is a good deal of truth in it.

Cramp.—This is very likely to trouble the patient who has been unnecessarily kept for many hours on the bed in one position. It may affect the muscles of the side, the thighs, or legs.

Except that it produces intense pain for the moment it lasts, it is not attended with any unfavourable result, and is relieved by the friction of a warm hand, or if the patient be able, by getting up and walking for a minute or two about the bedroom.

The Bladder.—In the *early* part of labour there will be a constant inclination to pass the urine ; and very frequently it will be driven from the bladder in small quantities at every pain, which often leads the patient and her friends to believe that ' the waters ' are escaping. The latter circumstance naturally excites alarm if the medical attendant has not arrived. There is not the slightest cause for this.

Sometimes an opposite condition will exist in a *more advanced* stage of the labour, particularly if it has been protracted—*an inability to pass the urine when the desire arises*. This should never be disregarded by the patient : the medical man should always be informed of it ; as also if many hours pass by without the desire itself occurring. Much present inconvenience, and sometimes lasting mischief, have arisen from a neglect of this precaution.

Examination by Medical Attendant.—Soon after the arrival of the practitioner, if labour has commenced, he requests, through the intervention of the friend of the patient, or the nurse, to make an examination—‘*to take a pain,*’ as it is termed. This is frequently objected to; and, from a false delicacy, the patient does not consent to his wish until obliged by the severity of her pains in a more advanced stage of the labour.

Now it is highly important that in the *earliest* stage of the process this examination should be made; for the medical attendant obtains necessary and valuable information, which regulates his conduct. Thus he ascertains whether labour has actually commenced, or if the pains are spurious or false pains only, requiring a plan of treatment for their relief, which he at once prescribes.¹ He is enabled to determine by it whether his assistance is necessary; whereas, if it is deferred, he might be the means of occasioning mischief, by being an idle spectator when he ought to be acting. And, moreover, it enables him to encourage his patient, not only by informing her how far she is advanced in labour, but, what is of much more importance, whether the position of the child is natural.

The medical man having intimated his wish to make this examination, withdraws from the bedroom to afford the patient an opportunity of placing herself upon the bed for the purpose proposed. Unfortunately she frequently takes a wrong position, and it becomes necessary to rectify it—a circumstance at all times painful to the mind of a delicate woman, and equally annoying and vexatious to the practitioner himself. The right mode is as follows :—

¹ See p. 146.

The patient should place herself upon her left side, at the foot of the bed, in such a manner as will enable her to fix her feet firmly against the bedposts ; her hips within ten or twelve inches of the edge of the bed ; her knees drawn up, and her body bent forwards. This position will bring the head and shoulders near the centre of the bed, and pillows must be placed to raise them to a comfortable height. The nurse should then throw a covering (a blanket or otherwise, according to the season of the year) over her mistress, the room should be slightly darkened, and a chair placed by the side of the bed for the medical man. By adopting the foregoing plan, the medical attendant is not even seen by his patient, her feelings of delicacy are in no way wounded, and, as the inquiry itself yields such important information, and gives no pain, all rational ground of objection is obviated.

There exists a vulgar prejudice in the minds of some persons that these examinations are attended with great benefit, that they materially assist the labour, and expedite the termination of the patient's sufferings, and she is therefore, naturally enough, continually looking for such supposed assistance. This is an injurious mistake ; for frequent examinations are not only superfluous, but may materially retard or interrupt the process of labour.

Diet.—This must be light and simple, and supplied from time to time in moderate quantities. Tea, coffee, broth, plain gruel, arrow-root—light nourishment of this kind is best. Under many circumstances, oranges and other sub-acid fruits will be found very grateful, and may be indulged in without hazard. Solid animal food is not admissible, and, in fact, very seldom desired.

Stimulants and cordials, such as wine, spiced gruel, &c., so much employed formerly, are now happily almost banished from the lying-in chamber. Given in liberal quantities they are productive of danger, disposing to fever or inflammation after delivery; and in smaller doses they disorder the stomach, and often, instead of forwarding, retard the labour. If a small quantity of wine should at any period of the process be really required, the medical man alone can judge of its necessity, and he will order it.

✓ The practice of urging women to eat and drink, *to keep up their strength*, is highly to be deprecated. What food is wanted will generally be asked for; but to load the stomach is not to nourish and strengthen the patient, and most certainly will in no degree expedite the delivery, but tend to protract it.

✓ **Posture, &c.**—The time occupied by the labour, if well managed by the attendants, may be relieved of much of its tediousness. Until the patient is advised to lie down for good by her medical attendant, she may be allowed to pass through this period in that posture most agreeable to herself. It is too much the practice to keep the patient on the bed from the very first, thus adding to the tediousness of the labour, unnecessarily wearying and weakening her, and frequently inducing severe attacks of cramp in the side, thighs, or legs. It may almost be determined by herself whether it is necessary to keep to the bed or not. What is called the first stage of labour is by far the longest usually—the pains being short and far between, becoming longer and more frequent as the stage advances, but unaccompanied by any disposition to *bear down*, the latter circumstance being the striking distinctive mark between those of the first and second stage. Now, so long as

the pains are not bearing down, the patient may keep about, and with advantage. Indeed, it is quite unnecessary in the early part of the labour for her even to keep her bedroom; a greater range amuses the mind, and is useful in changing the air as well as the scene. Care must, however, be taken throughout the whole labour that the patient is not kept *too much* on her feet. The attendants in the lying-in room frequently err in this particular, and, by making the patient continually walk about, with the idea that it will expedite the labour, greatly fatigue and exhaust her, and inevitably delay and interrupt the process. If at any time there is a disposition to sleep, it should be encouraged. A little sleep, however short, refreshes the system, and is of great use. The patient should resort to the sofa rather than the bed, taking care to lie on her back or right side in preference to the left, as the last must be the future position. The cheerful conversation of a kind and judicious friend is almost as valuable, too, as repose, choosing, as she will, in the absence of pain, subjects totally unconnected with the situation of the patient.

It is a very common thing, during the earlier period of the labour, to hear the attendants importuning the patient to assist her pains, 'to bear down forcibly;' that is, to exert the muscles under the power of the will in forcing downwards. This is worse than useless. The fact is that, during the first stage of labour, the voluntary efforts of the patient are neither called for nor can be beneficial. They may exhaust her strength, but cannot advance the labour. By-and-by, however, she will find that she cannot withhold her exertions—that it is no longer a matter

of choice, but of necessity—that she is *obliged* to bear down: *then* it will be useful.

The patient's mind is often depressed by being told, through the whispering of some injudicious friend, that her pains are unprofitable—that they do no good. This statement, however, is never the fact. The pains may not be so effectual as we might wish them to be; but in a natural labour no woman ever had a pain, however slight, depending on her labour, which did not forward the process. The foregoing idea has often led to many improper practices in the lying-in room, intended to encourage the pains—to the use of cordials or strong drinks, or to the employment of medicines supposed to have the effect of hastening delivery—by which it has often happened that a labour, which would have terminated easily and happily in a few hours, remains unfinished for many hours, sometimes for days.

Great pain in the back will be complained of during the labour; and as pressure with the hand is thought to alleviate it, most urgent, from time to time, will be the request to have it made. This support, however, must be given with care; for it would seem that the degree of pressure made must sometimes tend to bruise the back, so powerfully is the hand pressed upon it.

Probable Duration of the Labour.—This will always depend upon the circumstances of the individual case. A first labour, it must be acknowledged, is almost always slower than subsequent ones; but this is all, for I can confidently declare that, under proper management, there is not a jot more danger with the first than with future deliveries. When, therefore, a labour does happen to be wearisome and tedious, a

knowledge of the foregoing statement ought to inspire confidence in the powers of nature, and in the skill of the medical attendant, and thus prevent both needless anxiety and injurious impatience.

The truth is, that all labours, whether a first or not, vary considerably in respect to duration. There is nothing more uncertain than the time a labour will take. In the same woman the process shall have been accomplished with rapidity for three or four successive confinements ; and then a tedious and protracted labour shall follow. This circumstance, however, does not necessarily involve either difficulty or danger ; but in ninety-nine cases out of a hundred the slow labour is equally safe with the quick labour, provided no *meddling interference* is used, and nature is left to the secure, though it be slow, accomplishment of her object. And this is the point to which I wish to bring the serious consideration of the reader. The most universally popular, and at the same time most mischievous, error that is met with in the lying-in room, is the notion that the power and effect of labour pains may be promoted by various means. It is supposed that the medical man can do this ; and therefore he is frequently entreated, during the presence of a pain, to assist the patient. It is imagined that the patient can greatly aid by her own efforts ; and therefore she is exhorted to bear down with all the force she is able to exert. And, in the absence of pain, it is thought that the employment of hot and cordial nourishment will excite the pains and make them more vigorous ; and therefore these are sometimes given, and liberally. Now all this is most mischievous, and almost exactly what should *not* be done. It forms the chief part of the meddling interference to which

allusion has just been made. Natural labour is a natural process; and nature, in the execution of this wonderful and beautiful work, is not only perfectly competent to accomplish it for herself, but will not brook any interference. Resort, therefore, to the artificial means referred to—acting upon the popular error of giving assistance—and you will find, not only that you do not assist the labour, but that you arrest its progress, and invariably lay the foundation of difficulties which otherwise would never have arisen. If, then, you would prevent a perfectly natural labour from becoming a long and lingering one (amongst other things), avoid keeping your room too hot and too close; avoid keeping too much in bed, or over-fatiguing yourself by too much walking; avoid cordial and strong drinks, under the false idea of supporting your strength and increasing the frequency and power of your pains; and, lastly, obey implicitly the advice and directions of your medical attendant. How much evil an attention to the last admonition would prevent, the physician-accoucheur can amply testify. Whether the lying-in woman be the inmate of a palace or a cottage, if things are to go on well, from the moment labour commences, and the medical man enters the lying-in chamber, everything ought to be guided by his judgment, and under his unlimited control. I say again, therefore, to the patient, and more particularly to the patient's attendants, pay a scrupulous regard to the wishes and directions of the medical attendant, and cause not a mischievous delay or increase of suffering where there need be none.

From all this it must be seen that generally it is quite impossible for a medical man to form an opinion worth anything as to the probable duration of any

given labour. The incessant inquiries, therefore, made upon this point are in fact useless. Not so, however, the confident assurance that *all is going on well*. This ought ever to inspire the patient with confidence, and with that gentle and patient endurance which, at such an hour, will prove of inestimable value to her.

Close of Labour.—When the labour is proceeding rapidly, and *the pains become bearing down*, as it is now far advanced, *the bed must be kept altogether*. This is what medical men call the second stage: and having arrived, the patient may assist somewhat with voluntary effort, viz. exerting her abdominal muscles and diaphragm; and to enable her to do this she must not scream, but during pain hold her breath. A cloth or jack-towel will also be fixed to the bed-post to pull by, or the hand of another person may be grasped. But this auxiliary ought not to be employed to pull by, so much as to *fix* the trunk. And if the patient only follow the dictates of nature in this matter, she will do right; for it will be found that all that is required is almost an involuntary exertion of voluntary muscles. She must be careful, too, to make no straining effort in the absence of pain, during the intervals of which she ought to lie at perfect rest, renewing her strength. As the termination of the labour immediately approaches, feelings of impatience and restlessness must not be given way to, but the directions of the medical attendant implicitly followed; otherwise serious consequences might hereafter ensue. And now, if his previous instructions have been obeyed, the patient will be in possession of that strength and fortitude which are called for at this time, and prove invaluable.

The labour *completed*, the patient may turn slowly

on her back ; and the *broad bandage*, to which allusion has already been made, will be spread evenly, and pinned or buckled sufficiently tight around the lower part of the person to give a comfortable feeling of support. Sometimes a little pad is put under the bandage : this should never be allowed, except directed by the medical man. I have known it produce, by its pressure, injurious consequences. The object of the bandage, as it is generally used by medical men, is simply to give moderate and equal support to the abdominal muscles, which have the pressure from within suddenly withdrawn, and to prevent the uneasy sensations which would arise on their relaxed condition. For this purpose the addition of the large pad is quite unnecessary.

A little tepid gruel may now be taken, and the patient left to rest. If disposed to sleep she should indulge it, but if not, must be kept perfectly quiet, and undisturbed by conversation. The importance of quiet and sleep immediately after delivery is not sufficiently regarded.

How to proceed if the Child be born before the arrival of the Medical Attendant.—It not unfrequently happens, subsequent to a first confinement, that with some women their labours are so rapid and short (two or three strong and powerful pains being sufficient to bring the child into the world), that it is quite impossible for any medical man to get to them in time for their delivery. Under these circumstances, the friends are generally excited and alarmed. There is no occasion for this ; still they ought to be acquainted with what is best to be done.

If the patient is not already in bed, let her get upon it as quickly as she can. Let her turn on her

left side. Let the clothes be arranged as far as time will allow, in the manner described before. And *when the child is born* let the attendant take care so to place it that there shall be a free access of air to its mouth. A few pains more may cause the after-birth to be expelled. If so, the cord may be tied and divided (of the mode of doing this I shall presently speak); the child, wrapped in its flannel receiver, may be carried away from the mother to be washed or dressed, as may be most convenient. Next, the bandage must be slipped round the patient, and, being pinned sufficiently tight to give comfortable support, she must be left quietly to repose until the medical man arrives. And all this must be done without hurry and bustle, or it will not be done well.

The Child may be born, but the After-birth may not be expelled.—If so, no nurse ought to be permitted to remove it. This hint cannot be too strongly borne in mind; for an injudicious interference with the after-birth may be attended with the most serious consequences. But, is the cord to be tied and the child separated, when this is the case? This must depend upon circumstances. If the patient is residing in the country, for instance, and a considerable time must elapse before the medical man can possibly arrive, if the child has cried or breathed vigorously, it may be done with safety. If, on the other hand, the medical attendant is shortly expected, the less done the better. Simply see that the infant has air; place it on its back.

And now with regard to *the mode of securing and dividing the cord*. Make two ligatures, each consisting of half-a-dozen threads of coarse thick cotton. Bring the cord within view, but be very careful not

to expose the mother. With the first ligature tie the cord about three fingers' breadth from the child's navel, and place the second about half an inch farther still from the child, and use just sufficient force to secure, but not to divide, the cord with the ligatures. The navel-string may now be cut with a pair of scissors between the two ligatures, and the child taken away.

Twins.—If there should happen to be twins, the mother must, if possible, be kept in ignorance of the fact till both children are born. This is an established practice with medical men, as mischief might ensue from the apprehension with which the patient might contemplate the second labour. Unfortunately, however, the attendants in a lying-in room, taken by surprise (when informed by the medical man, after the birth of the first, of the existence of another child), often, by their incautious conduct, discover the fact prematurely to the patient. This, be it remembered, should ever be carefully guarded against.

After-pains.—About half an hour or so after delivery, a patient must expect pain again to occur. Those pains, however, will differ from those which have just subsided, as they are not attended with bearing-down efforts, and are accompanied by slight discharge: these are called 'after-pains.' They will continue off and on, with more or less frequency, severity, and duration, for about eight-and-forty hours. In this respect, however, they vary much in different individuals; but, whether mild or severe, they must be borne with patience, and must not give rise to anxiety, since they are useful and salutary. If, indeed, they should be violent, they are under the control of medicine, which will be accordingly ordered for that purpose.

These pains rarely occur with first children.

Sect. 3.—From after Delivery to the time of leaving the Chamber.

Arrangement of Patient's Dress, &c.—The medical attendant having retired from the room, it sometimes happens that an inexperienced nurse proposes to make her mistress comfortable, and, if allowed, will change the linen about her person, and alter her position in the bed ; in effecting which she will perhaps lift her off the bed, or, if not, place her in an *erect* or *sitting posture* upon it. Nothing can be so improper, or more likely to induce serious consequences. It is the duty of the medical man himself to leave his patient comfortable, as it is called ; and it is in his power to do this without running any risk, or altering her situation in the bed ; that is, if the previous directions about her dress have been attended to. Little things are often of great importance, and are sometimes found to be so when it is too late.

An hour, or an hour and a half, however, having elapsed from the time of delivery, the necessary alterations about the bed and dress may be made. The soiled linen is to be removed, and the chemise and nightgown, previously folded around the chest, drawn down. The patient is then to be carefully removed to the upper part of the bed ; in effecting which, *the horizontal position is to be strictly preserved, and on no account for one moment must the mother be raised upright.* The patient herself must be entirely passive whilst this change is being effected ; no effort must be made, or assistance given by her.

These arrangements finished, the room must be slightly darkened, the most perfect quiet observed, no

conversation, and least of all whispering, be permitted ; the friend must guard the room from all intruders—the nurse take the infant into the adjoining chamber, if the arrangements will permit it—and the patient be encouraged to seek a long and refreshing sleep.

Passing Water.—Shortly after delivery, the patient must make an attempt to pass water ; and whilst this is to be done as nearly in the horizontal position as possible, there is no objection to her turning round upon her knees for this purpose, if it is found to be necessary.

If the labour have been tedious, there will sometimes be difficulty in evacuating the bladder. In such a case, a cloth should be wrung out of warm water, and applied to the lower part of the stomach and external parts. If, however, the fomentations fail to obtain relief, then the medical man must, without fail, be informed of the circumstance.

This inability occurs very frequently ; and it is important that the patient do not deceive herself in this particular. Passing a little water drop by drop does not empty the bladder ; and if it be not emptied, assistance is demanded. It would be a sadly mistaken delicacy which kept a patient from revealing such a circumstance to her attendant ; even a very temporary concealment has often been most injurious, while prolonged delay has, in many instances, led to most disastrous consequences.

The Bowels.—On the evening of the second, or morning of the third day, some aperient medicine should be taken ; and this ought to be given though the bowels may have been previously moved, for they

will be only *partially* relieved. Castor-oil is the best medicine, and will generally be ordered. Fill two-thirds of a wine-glass with milk, coffee, or mint-water, and upon this pour a large table-spoonful of the oil, which may be thus swallowed without being tasted. If it does not have the desired effect after four or five hours, the dose must be repeated. If the stomach will not retain the oil, some *mild* aperient draught may be substituted; for all drastic purgatives should be carefully avoided at this time.

The administration of an enema consisting of a pint of warm gruel or barley-water, with two table-spoonfuls of castor-oil, is certainly the preferable mode of acting on the bowels, provided it is not objected to. It is the lower bowel which is generally torpid at this time, from the continued pressure (for so many weeks) of the enlarged womb upon it; and the enema acts directly upon this part of the intestinal canal. The instrument figured at page 104 is the most appropriate—it must of course be provided with a rectum tube.

The repetition of aperient medicine, or the enema, during the continuance in the lying-in room will also be required; the perfect rest of the body induces a costive condition of the bowels, which must be assisted by some of the foregoing means.

The Discharge.—After delivery a discharge commences, which is at first of a red colour, thin and watery. It soon, however, changes its aspect, and successively presents an appearance approaching to green, afterwards to yellow, and finally to soiled water. It varies in quantity in different females; for in some it is extremely scanty, whilst in others it is profuse. It seldom ceases before the expiration of a fortnight

or three weeks ; if, therefore, it *suddenly* cease at any time during this period, the circumstance must not be disregarded as unimportant.

The liberal use of tepid milk-and-water as a *wash* during the existence of the discharge will be necessary, and will be productive of great comfort ; if the discharge be offensive, then use a little Condyl and warm water instead, and the prejudices of the nurse must not be permitted to interfere and prevent this direction from being attended to. In general the dictum of the latter personage on points like the present, however unreasonable it may appear, is received and submitted to, because she is supposed by her experience to be fully informed upon all such matters. It happened to me, when giving directions on this very subject, whilst in attendance upon a highly respectable lady during a miscarriage, to hear from her that her nurse in the country never permitted anything of the kind until a full fortnight after delivery, lest she should take cold ; and this preposterous advice had been obeyed.

It must be delicately and carefully managed. The milk-and-water, as above, should be used three or four times a day for the first week, and gradually left off as the discharge diminishes. A nice soft sponge should be provided ; and the napkins must be changed sufficiently often, but applied just warm, as any sudden impression of cold might be mischievous. The nurse must effect all this without causing any change of the horizontal position—a proceeding which is quite unnecessary, and, so soon after the delivery, always undesirable.

It is right to observe that this discharge, having proceeded healthfully for a week or so, will sometimes become *very profuse*, and, if not attended to, will con-

tinue thus for many weeks, seriously affect the health, and perhaps prevent nursing. The medical attendant should be early informed of this circumstance. The condition is but too frequently brought on by the diet and regimen being too stimulating for this period, or from the lying-in room being kept at too high a temperature, or, more frequently still, from the patient leaving the recumbent position too early.

Personal cleanliness, too, is of the utmost importance to the well-doing of the lying-in patient; and although this remark may appear at first sight quite unnecessary, experience proves the contrary. In the lying-in room, there is always a great fear of taking cold; and this apprehension leads many women (the most careful at other times as to the condition of their skin) to forego the usual measures of cleanliness: they are afraid. Now, inasmuch as for a longer or shorter period subsequent to delivery there is always more than usual exudation from the surface of the body, so more than ordinary means should be taken for its removal, lest it become a source of injury. Frequent change of bed and body linen is all that is necessary at first; but, as soon as the patient can bear it, the whole surface of the person should be bathed by means of a sponge with tepid vinegar and water, carefully drying one part before proceeding to another. The bathing the arms alone will be found most refreshing; it may be commenced in this way. It must be done by the nurse carefully and quickly. ✓

The Management of the Breasts.—The plan to be adopted in reference to the management of the breasts will depend upon various circumstances; and no general rules that may be laid down upon this subject will be

without an occasional exception in the lying-in room. Their management, however, will chiefly depend upon whether it is a first or second confinement ; or rather, whether the individual has previously suckled or not.

In a first confinement there is seldom any milk secreted before the second or third day, or even later. The milk-ducts are generally impervious up to this time ; and there has consequently been no discharge from the nipple. About the third day after delivery, however, and now and then a little later, the breasts become hard and swollen, and very soon painful. As the process of secretion proceeds, the breasts, more swollen than ever, appear to be made up of large extremely hard lumps or knots, and become very heavy and tender. After a time the milk is at 'its height,' as it is termed ; and if the breast be fomented or gently pressed, a small quantity of milk will be seen oozing from the nipples. If the infant is placed at the breast, the action of suckling will be attended with some degree of pain, but followed by considerable relief ; and as the milk flows, the hardness will diminish, the general swelling subside, and, the milk being freely and frequently drawn off, the feelings of the patient will become more comfortable, and all pain removed : the breasts will be distended only when some hours have elapsed since they were drawn ; and thus lactation will be established.

The treatment of the breast in this case is very simple. It should remain untouched until it begins to enlarge, about the third day. Then the nurse should gently draw the breast so as to encourage, not so much the secretion, as the flow of the milk. This is preferable to putting the child to the breast before the milk has begun to run.

The fact of the nipple not being free, as nurses call it, before delivery, is the reason why they consider the early application of the child subsequent to it as so important, and that therefore they cannot apply the infant too early. This measure, too, they think necessary, lest the instinct of sucking should be lost, if not thus indulged within a few hours after birth. There is some show of reason in the latter notion; but it is nothing more, for this instinct is readily preserved by means of the sucking-bottle, which indeed is necessary in order to supply the child until the breast milk is secreted.

Immediately the breasts are found to enlarge and the lumps to form, the nurse should gently rub them with warm almond-oil. This must be done every four or five hours, and for four or five minutes at a time. As the breasts increase in size, but before they become distended, the child should be put to them after they have been rubbed; this will be generally about the fourth or fifth morning. At first, little milk will be obtained; but by and by the supply from the breast will alone be sufficient to satisfy the demands of the infant. From this time the parent will have no further difficulty; she must, however, carefully dry the nipples after each time of suckling, lest they become sore and chapped; she should also guard them from pressure.

It will frequently happen that the breasts become so hard and swollen, that the infant experiences considerable difficulty in drawing out the nipple. Various methods have been suggested to overcome this evil. The mode I always propose is as follows:—First, foment the hardened breasts with flannels wrung out in warm water; or take small wooden bowls soaked

in warm water, wrap them up in flannel, and then place them over each breast; or apply nicely made bread-and-water poultices. Any of these means will promote the easy flow of the milk. Having done this, let the nipple be drawn out either by a vigorous child of three or four weeks old, by a grown person, or by the following method:—Take a pint bottle with a smooth mouth, or—which is better, because lighter—a Florence oil-flask; fill it to the neck with boiling water; pour out this water almost immediately; and, provided it is not too hot, apply the mouth of the bottle or flask to the flattened nipple. As the bottle cools, a vacuum will be created, and the nipple will be elongated in its neck; retain it thus a few minutes, when the bottle is to be gently raised by depressing it, and immediately apply the child.

Various kinds of breast-pumps and other machines have been invented, but none answer the purpose so well as the simple warm bottle, the mouth of another child, or that of a grown person.

In a second confinement—that is, if the mother has previously been a nurse—the circumstances connected with the secretion of the milk, and the plan to be followed in reference to the breast, will differ not a little from the details just given.

There is ordinarily, for two or three weeks prior to the occurrence of labour, an exudation from the nipples daily of a fluid somewhat resembling milk; and, in the course of twelve hours subsequent to delivery, a pricking sensation is felt in the bosom, which gradually enlarges, and a full supply of milk is produced in twenty-four hours.

Here, then, the time at which the child should be put to the breast differs from that in a first confine-

ment; it must be applied at a much earlier period. It should be done within the first four-and-twenty hours after delivery. This will secure the drawing out of the nipple before any hardness of the breast occurs which may render it difficult, and will also encourage the flow of milk; for the very effort made by the infant to obtain it will, under the present circumstances, excite its secretion.

As in the former case, the breast must be rubbed gently with the warm almond-oil every time before the child is put to it; and if it be necessary, the nipple must be drawn out by the means already suggested. In general, however, if common care only is employed, no difficulty whatever obtains in a second nursing.

If the patient should be so unfortunate as to have sore nipples, they must be treated as directed in the chapter on the Breasts.¹ This is one of the earliest and most troublesome attendants upon suckling. It frequently, however, arises merely from a want of due care, either before delivery or after it, and as frequently continues a source of great suffering and distress to the patient, who thus endures much more than is necessary, from a want of a judicious selection and persevering application of remedies.

Visitors.—It is most important, through the whole of the lying-in month, that the body and mind of the patient should be kept perfectly easy. It has been already observed that the lying-in apartment must be kept cool and well ventilated; it must also be kept quiet.

In reference to the admission of visitors, in a first confinement, I am always apprehensive of mischief; for it is then that the lying-in room is so

¹ See p. 204.

attractive. The numerous relatives and friends all eagerly flock to the house, anxious just to see the young mother, and nurse the child. If this anxiety is indulged by the medical man, it never fails to be injurious. It is not uncommon to hear people say, when the mischief is done, 'Oh! we thought her so well that a visit could not possibly be hurtful.' It is always running a most unjustifiable risk; for the very pleasure that the patient experiences in seeing her young friends, under her present circumstances, is alone sufficient so to excite and disturb her system as to be productive of the most unfavourable results. The most perfect quiet and repose, then, are positively necessary to the well-doing of the patient: she must be seen but by one visitor, her medical friend.

The same precaution is equally necessary in future confinements; but as the situation of the lying-in patient is not now a novelty, and she herself is fully alive to the importance of solitude, rest, and the avoidance of all excitement, this point is generally strictly observed.

The Recumbent Posture.—Although there can be no possible necessity for a lying-in woman, who is doing well, to remain in bed after the fourth or fifth day, it is imperatively necessary that she continue in the *horizontal position* for a sufficient length of time after her delivery. The period required must depend upon circumstances; and a great diversity in this respect will be found to prevail in different individuals. No lying-in woman, however, should leave the recumbent position at all for the first two weeks, and but occasionally for the third week; and in some instances this position must be maintained much longer; at all events, it should be continued so long as any discharge remains.

Thousands have suffered during the rest of their lives from the very general and very reprehensible custom of indulging prematurely in an upright or sitting posture. The half-recumbent, half-sitting posture, too, has been productive of as great an amount of mischief. If the trunk of the body is not recumbent, it matters not where the extremities are placed ; and yet women think, if they do but keep their legs upon the sofa, that is all that is necessary.

Among the poorer classes of society, who get up very soon after delivery, and undergo much fatigue, the 'falling down of the womb' is a very common and distressing complaint. It simply results from the fact that their situation in life does not allow them to remain in the recumbent posture long enough after their confinement. The importance of this hint cannot therefore be too strongly impressed upon the recollection of the mother.

The Bandage.—It has already been observed that a bandage, wide enough to cover the whole length of the abdomen, is to be applied directly after delivery. This must be worn, gradually tightened day after day as occasion requires, until the patient is permitted to move about, when a proper and nicely-adjusted belt should be substituted for it. This support will afford great comfort in all cases, but especially to those mothers that have already had many children, or a few in quick succession ; as also to short and very stout persons : to both the latter, indeed, its use is imperative ; for if it be not adopted, inconveniences will be found shortly to arise, very unseemly and annoying in their character.

This belt must be worn so long as the abdominal muscles appear to require its support, which in some

cases will be a few weeks only ; in others (in very fat and stout persons, for instance) it can never in future be dispensed with.

The Diet and general Management.—For several days after delivery the diet ought to be small in quantity, and more simple in quality than before labour. The sudden and great change in the habits and situation of the patient, from activity to the perfect quietude of the chamber, renders this necessary ; as does also the possible existence of a more or less excitable condition of the whole system, the effect of the labour. Not, however, that the lying-in room is a sick-room. It is a common but very injurious practice with some nurses, for several days after delivery, to keep the bedroom curtains drawn close, to increase the number of blankets, and to be continually giving everything as hot as it can be swallowed, deluging the patient's stomach with water-gruel and slops, with a view to promote perspiration, and prevent her taking cold. This is the most direct way to produce the evil so much dreaded ; for it follows, as a natural consequence, that by these means she is rendered more than ever susceptible to the impression of cold, is sure to be much debilitated, and a troublesome species of fever will be induced, which it will be found difficult to remove.

The simplest and best kind of diet at this time consists of coffee in the morning, a light pudding for dinner, coffee again, or tea, in the evening, and moderate quantities of gruel in the intervals—if the patient desire it ; and all other kinds of nourishment must be abstained from during these first three or four days.

As has been before observed, the body and mind of the patient must be kept perfectly easy, and the lying-

in apartment cool, well-ventilated, and free from visitors.

On the fourth or fifth day, if everything is going on well, and the bowels have been opened, the patient may take the wing of a chicken, or, what is better, a mutton chop; and, as beverage, equal parts of barley-water and milk, which will allay thirst, relieve any sinking of the stomach, and produce milk better than anything else.

At this time, if it be the summer season, she may be removed from the bed—the heat of which is relaxing—to the outside of it, or to the sofa, previously placed at the side of the bed; but on no account must the slightest assistance be given by herself in the removal; and, when on the sofa, the horizontal position, for the reasons stated under the head ‘*Recumbent Posture*,’ must be strictly kept. When this change is made, there must be no dressing—putting on the stays, ‘for fear of taking cold.’ There will be no danger of this, provided the nurse has properly arranged the coverings of the sofa, and the clothing of her mistress when upon it. If it be winter, it will be better to delay leaving the bed until a few days later.

The sixth, seventh, and eighth days pass; and the ninth arrives, which is considered a very critical one by most lying-in women, although it is not more so than any other. Such, however, is the popular impression; and perhaps no single prejudice prevails to a greater extent. Its existence would be harmless, except that now and then I have found it cause an injurious anxiety in the mind of the patient. Nothing can happen on the ninth day that is not just as likely to occur on the nineteenth. ✓

After the tenth day it matters little whether the

patient remains in the lying-in chamber or not ; if a sitting-room adjoins it, it is better for her to be wheeled into it for the day, returning in the evening to her chamber, the atmosphere of which will thus be preserved purer and more refreshing to sleep in. This plan, however, can only be adopted where the bedroom opens into a sitting-room, as it would be quite out of the question to remove the patient through any passage, or to another floor. And she should be wheeled from her bedroom *lying* on the sofa—not *walk* from it.

It is never safe to join the family circle before the expiration of the third week ; and the month from delivery having terminated, if all be going on well, the patient may gradually resume her accustomed duties, and go out of doors without risk.

Before I conclude this part of the chapter, I must answer a very important question which would naturally be asked here—Is a nursing woman better with, or without, wine or beer ? I am daily more and more convinced that a *healthy woman* is better without either, both for herself and for her child. Her own health will be less likely to become deranged ; her own feelings and sensations will be infinitely more equal and comfortable ; and the milk secreted in her bosom will be more pure and nourishing ; and, as a consequence of all this, her child will thrive and flourish better without the stimulant than with it. During the time such a person remains in the lying-in room, and indeed, until she can take active exercise in the open air, some increase in the amount of beverage will be found necessary ; and the best she can take is the barley-milk already referred to. A tumbler of this occasionally in the day will meet the necessities of the case far

better than anything else ; and this, or milk, in varying quantities, it will be found useful, and in most cases necessary, to continue throughout nursing.

Is wine or beer, then, it will be asked, never useful to the nursing woman ? Yes, certainly. I have seen the bitter ale, for instance, taken in moderate quantity, of great service to those of weak constitution, yet free from disease. But will *all* such be thus benefited ? Certainly not. Trial must be made, and the individual must interrogate her own sensations and experience ; and if the effect is favourable, let her continue it ; if, on the other hand, its use is followed by evident disturbance and discomfort, it is manifestly unfit for her, and she must discontinue it.

This subject will be dwelt upon more fully in the chapter on Nursing, to which the reader is referred.

CHAPTER VII.

*HINTS FOR THE LYING-IN ROOM,
REFERRING TO THE CHILD.***Sect. 1.—The Management of the Child directly
after its Birth.**

Washing.—The infant being born, the medical man ties the navel-string, divides it, and then places the child in the piece of flannel called a ‘receiver.’ It is now to be warmly wrapped up in this by the nurse, and, if it be cold weather, to be carried to the neighbourhood of a good fire, though not in front of it. The necessity of attending to the warmth of the infant is evident; for being accustomed, before its birth, to one uniform temperature, and that a warm one, exposure to a cold atmosphere would be attended with risk.

The first thing to be done is to *wash* the child. This may be proceeded with immediately, unless, as is sometimes the case, and especially when the labour has been at all premature, the child is found to breathe with difficulty, and shows other signs of feebleness. In this case it must be allowed to remain perfectly quiet and undisturbed, until it breathes freely and strongly, and appears more active and lively. On the other hand, if this be the case from the first, the washing may be proceeded with as soon as it conveniently can.

The body of the child will be more or less covered with a white, greasy, curd-like substance, particularly about the eye-lids, groins, armpits, and various folds of the skin. This adheres very closely, and, unless proper means are employed, is difficult to remove. It is important, however, that the skin should, for the most part, be thoroughly cleansed of it; for, if allowed to remain, it dries, hardens, and irritates the surface, and sometimes produces severe excoriations. Water will not act upon it, and soap has very little effect; lard, however, renders it soluble. Smear the whole of the body, therefore, first of all with fresh lard. Then put the child into warm water (from 96° to 98° Fahrenheit), and, after five or six minutes, wash the body, while still in the bath, with a soft sponge, and the least irritating soap you can get. In this way the surface will be cleansed most readily, and generally perfectly; if, however, here and there, the nurse finds it difficult to get off any remains of the secretion, she must not be over-anxious to do so, lest by her over-rubbing she irritate and inflame the skin: she must wait until the next washing, when it will be easily freed from it. Always use *warm water*. Some persons advocate the employment of cold water, under the impression that it is calculated to harden and invigorate the infant. *This is a most hazardous and cruel experiment.* As has just been observed, the infant has experienced hitherto but one uniform degree of temperature, and that a very warm one; suddenly, therefore, to subject it to a cold bath is to give a shock to its nervous system, which might be attended with fatal consequences.

The infant should be washed *in the bath*, and not on the nurse's lap. Its bones are soft and incapable

of sustaining its own weight in anything approaching to an erect or sitting posture; and to hold the child up by the hand, not only occasions a degree of pressure almost painful to it, but might cause injury to its delicate structure. The bath used in Germany is the best that can be employed for this purpose: it is made of wood, oval in shape, with a raised portion at one end for the head, and deep enough to contain a quantity of water just sufficient to cover or float the child. It secures effectual protection from cold, a position best suited to the feebleness of the infant form, and it admits of the head and face being washed without risk of the impure water of the bath running into its eyes. And this leads me to remark that the same water which is used for the rest of the body must not be employed for the face, lest the impurities which were washed off from the skin should get into the eyes, and produce a dangerous inflammation of those organs—a disease which is of frequent occurrence, and sometimes fatal to vision.¹ Neither must spirits of wine, brandy, or anything of the kind, be put into the water with which the head of the child is washed. This is done, I believe, under the impression that it prevents the taking of cold. It however answers no good purpose, and, if it have any effect, is rather pernicious than otherwise.

Upon the child being taken out of the bath, it should be laid upon a pillow previously covered with warm napkins, on the nurse's lap, for the purpose of being dried. This plan is far preferable to the one usually adopted, of keeping the infant tumbling about on the nurse's knees in every conceivable change of position.

¹ See p. 197.

Putting up the Navel-string, and Dressing.—

The surface of the child's body having been thoroughly dried with soft and warm towels, the next thing is to put up the remains of the navel-string. Having been examined by the medical man previous to his leaving the chamber, it is presumed that its vessels are properly secured; and it is now to be protected from injury, until it separates from the body of the child—an occurrence which usually takes place somewhere between the fifth and fifteenth day from delivery. The mode is as follows:—A piece of soft old linen rag doubled, and about four or five inches in diameter, is to be prepared, and a circular hole cut in its centre, through which the cord is to be drawn. The cord, being carefully folded up in this envelope, is to be laid on the abdomen of the child, and secured by what is called the belly-band, viz. a band of thin flannel, five or six inches broad, and long enough to go twice round the body. Care must be taken that this is not drawn too tightly, as it would interfere with the breathing and digestion, and tend to promote rupture. The finger should be easily passed under it. It is right to continue the application of this bandage for at least five or six months; and even then it should by no means be left off if there is any disposition to laxity or weakness of parts about the navel. This must always be most carefully looked to. Most of the cases of rupture at this part arise from a careless application from day to day of this belt, and from its being too early left off. It should be fastened by the needle and thread, pins being always objectionable in any part of an infant's dress.

The Child is now to be dressed.—About this it is unnecessary to say more here (for it will be

fully dwelt upon in Chapter X.) than that the dress should be sufficiently warm, light, and loose, and not calculated to place the slightest restriction upon the movement of the child's limbs. I do not advise the use of a cap, except in very rare cases ; such as in cases of premature birth or for very feeble children, or if the weather should be unusually cold.

It will sometimes happen that the child is exceedingly feeble at birth, or may be prematurely born ; in either case it will require the greatest care and watchfulness on the part of the attendants. Such children are constantly uttering a low, plaintive, moaning cry, caused, I believe, from a want of sufficient warmth. They are unusually susceptible to impressions of cold, and at the same time unable to maintain sufficient animal heat ; and if this is not supplied by artificial means, they are lost. They should always, after the washing is completed, be clothed in flannel from head to foot, the face only exposed, the little hands requiring the covering quite as much as any other part of the body ; and when dressed, should be placed in the mother's bosom, and kept there as much as possible. It is even very advisable for a mother under these circumstances, particularly if it be the winter season, to remain in bed for a longer period than she otherwise would, for the sake of her little one, as the animal heat is much better preserved in this way than in any other. I lately attended a lady, prematurely confined at the seventh month, who was delivered of twins, one of whom was born alive. As may be supposed, the child was exceedingly diminutive in size (the more so from being a twin), and of very feeble power, but, contrary to the expectation of all the friends, was successfully reared, and I believe owing to the careful observance of

the above suggestions. Warmth, and good, wholesome, nourishing breast-milk, are the two grand requisites in these cases.

Medicine, and putting the Infant to the Breast.

—As soon as the infant is dressed, many nurses are in the habit of dosing it with castor-oil, or honey of roses and almond-oil. This is objectionable on many accounts; it is quite uncalled for so early, and it may be altogether unnecessary if only a little time is given. The infant should at once be put quietly to sleep in a cot or bed, so situated that it shall not be exposed to draughts of cold air, and that its eyes shall be protected from a strong light, which as yet they are unable to bear. It should then be allowed to repose for some hours, when, the mother having also obtained some sleep, it is proper to place the child to the breast, *provided the patient has at some former time performed the office of a nurse.* This should always be done within the first four-and-twenty hours, for the reasons before stated; viz. partly to draw out and form the nipple before any hardness of the breast occurs and renders that difficult, and partly to encourage the flow of milk; for the very effort made by the infant to obtain it will in this case excite its secretion.

It has been supposed by some that the milk first secreted is improper for the child—that it teases its bowels. The fact is, that it differs in an important quality from that which is soon after secreted; but then it is a difference which nature has ordained and designed for a wise purpose. The bowels of the infant when born are loaded with a dark black secretion called *meconium*, of which it is essentially necessary that they should be relieved, or it proves a source of great irritation. The means for its removal are found in the

✓ aperient qualities of the first milk ; so that, instead of being injurious, it is highly necessary the child should take it. It is therefore only in those cases where the first milk of the parent's breast is not obtained, owing to the child being put to a wet-nurse, or from the first milk failing to be sufficiently purgative, that the administration of a gentle aperient is justifiable. Half a tea-spoonful of castor-oil, repeated or not as may be necessary, is the best that can be given.

✓ It is unnecessary for the child to take any nourishment until six or eight hours after birth. Usually, at this time, the mother will be able to supply it with its natural nutriment : should not this, however, be the case, as will always happen with first labours, the child must be fed every two or three hours, or oftener, with a small quantity of ass's milk and boiling water, equal parts—or of fresh cow's milk one-third, and boiling water two-thirds, slightly sweetening the latter mixture with loaf-sugar. A few spoonfuls of one or other of these (and the ass's milk is to be preferred) are to be given through the sucking-bottle. This is to be continued till lactation is fully established, after which the infant must obtain its nourishment from the breast alone.¹

Sect. 2.—Directions for certain Accidents and Diseases which may occur to the Infant.

Still-born.—The child may be born long before the arrival of the medical man, and the question then arises what is to be done? Nothing, if he is near at

¹ For further directions see 'Rules for Nursing the Infant,' p. 226.

hand, except allowing a free ingress of air to the child's mouth, to prevent suffocation. If, however, medical assistance cannot be obtained for some time, then the cord may be divided, provided the child cry or breathe vigorously. This is to be effected by first tying the navel-string with common sewing thread, three or four times doubled, about three inches from the body of the child, and again half an inch from the former ligature, and then dividing the cord with a pair of scissors between the two. The *after-birth* and everything else should be left *without interference*, till medical aid can be procured.

But sometimes the child comes into the world apparently dead, and, unless the most active exertions are made by the attendants, is certainly lost. The superintendence of the means used devolves upon the medical man; but it would be often well if his assistants were already acquainted with the measures pursued under these circumstances, for they would be more likely to be carried into effect with promptitude and success. And again, the still-born child is frequently in this state from having been born very rapidly, and before the medical man can have arrived; it will therefore be more especially useful, in such a case, that the attendants in the lying-in room should know how to proceed.

The various causes producing this condition it is unnecessary to mention.

The condition itself may exist in a greater or less degree: the infant may be completely still-born, with no indication of life, except, perhaps, the pulsation of the cord, or a feeble action of the heart; or it may make ineffectual efforts at breathing, or even cry faintly, and yet subsequently perish from want of strength to

establish perfectly the process of respiration. Under all these circumstances a good deal can often be effected by art. In every instance, therefore, in which we have not positive evidence of the child being dead—in the existence of putrefaction, or of such malformation as is incompatible with life—it is our duty to give a fair trial to the means for restoring suspended animation; and as long as the slightest attempt at motion of the respiratory organs is evinced, or the least pulsation of the heart continues, we have good grounds for persevering and hoping for ultimate success.

The measures to be employed to restore a still-born child will be a little modified by the circumstances present.

If there is no pulsation—no beating—in the cord, when the child comes into the world, the ligatures may be applied, the cord divided with the scissors (as already described), and then the means for its restoration made use of detailed below—viz. inflation of the lungs, and perhaps the warm bath. If, with the above circumstances, the child's face be livid and swollen, some drops of blood should previously be allowed to escape before the ligature is applied to that part of the navel-string which is now only attached to the child.

If there be pulsation in the cord, but respiration not fully established, the cord must not be divided; and, as long as pulsation continues, and the child does not breathe perfectly and regularly, no ligature should be applied. The first thing to be done here is to pass the finger, covered with the fold of a handkerchief or soft napkin, to the back of the child's mouth, to remove any mucus which may obstruct the passage of air into its lungs; and at the same time to tickle those parts, and thereby excite respiratory movements.

Then, at short intervals, suddenly and forcibly blow on its face and chest. Everyone knows the convulsive gasping which the shock of sudden cold produces. Also rub the chest with the hand, and give a gentle shock to the body by slapping the back. A little perseverance in the employment of these means will often establish respiration, and save the necessity of further measures. If, however, they fail, the chest and soles of the feet must next be rubbed with spirits, the nostrils and back of the throat irritated with a feather previously dipped in spirits of wine, and ammonia or hartshorn may be held to the nose.

Inflation of the Lungs.—The above means not having been successful, and the pulsation in the cord having ceased, the *infant* must be *separated*, and inflation of the lungs resorted to. This is to be effected gently and cautiously as follows: The child, wrapped in flannel, is to be laid on its back upon a table placed near the fire. Its head is to be slightly extended, and the nostrils held between the fingers and thumb of one hand, whilst with the fingers of the other slight pressure is to be made upon the pit of the stomach, so as to prevent the air from passing into that organ.

The lungs of the child are now to be filled with air, by the operator applying his own lips—with a fold of silk or muslin intervening for the sake of cleanliness—to those of the child; and then, simply blowing into its mouth, he is to propel the air from his own chest into that of the infant. Previously, however, to his doing this, he should make several deep and rapid inspirations, and finally, a full inspiration in order to obtain greater purity of air in his own lungs. When the chest of the child has been thus distended, it is to be compressed gently with the hand, so as to empty the

lungs ; and in this way the inflation, with the alternate compression of the chest, must be repeated, until either the commencement of *natural respiration* is announced by a sneeze or a deep sigh, or until *long-continued, steady, persevering*, but unavailing efforts to effect this object shall have removed all hope of a successful issue. Whilst these efforts are being made, some other individual must endeavour to maintain or restore the warmth of the infant's body, by gently, but constantly, pressing and rubbing its limbs between his warm hands. And after respiration is established, the face must still be freely exposed to the air, whilst the warmth of the limbs and body is carefully sustained.

It will sometimes happen—and to this circumstance the operator should be fully alive—that when the child begins to manifest symptoms of returning animation, its tongue will be drawn backwards and upwards against the roof of the mouth, filling up the passage to the throat, and preventing further inflation of the lungs. This is to be remedied by the introduction of the forefinger to the upper and back part of the child's tongue, and gently pressing it downwards and forwards, by which the difficulty will be removed, and the air again passes.

The Warm Bath.—More reliance may be placed upon the above measure to restore animation than upon the warm bath. Still, this is sometimes useful, and therefore must not be neglected. Whilst inflation is going on the bath may be got ready, then resorted to ; and if unsuccessful, inflation ought again to be followed up. If the bath is useful at all, it will be so immediately upon putting the infant into it—respiration will be excited, followed by a cry ; and if this does not occur at once it would be wrong to keep the child longer in the bath, as it would be only losing

valuable time, which might be devoted to other efforts. The temperature of the bath should be about 100° ; and if, upon plunging the infant into it, it fortunately excite the respiratory effort, it should then be taken out, rubbed with dry but hot flannels, and, when breathing is fully established, laid in a warm bed, or, what is still better, in its mother's bosom—letting it, however, have plenty of air.

We should not relinquish our endeavours at resuscitation under two or three hours, or even longer; and if ultimately successful, the state of the infant should be carefully watched for two or three days.

Injuries received during Birth.—If a labour be long and tedious, the head and body of the child may be bruised and disfigured.

The shape of the head is frequently altered by the compression it has undergone, so that it may be elongated, and measure, from the chin to the back of the head, as much as six or seven inches. This always excites surprise, sometimes apprehension: there is no ground for it. It must be allowed to regain its natural shape without interference.

Tumours or swellings upon the head are very common. They arise from pressure upon the part during the labour. The only treatment that is required, or safe, is freedom from all pressure, and the application of cold lotions composed of brandy or vinegar and water. The swelling will gradually subside. It will be right, however, to direct the attention of the medical man to this circumstance.

The *face* may be frightfully disfigured from the above cause, exceedingly black, and the features distorted. Nothing is necessary here; in a few days it will recover its proper appearance.

Retention of Urine and Motions.—Occasionally an infant will not pass any urine for many hours after its birth. This most frequently arises from the fact of none being secreted. In the last case of this kind that I was called to, three days had elapsed since birth, and no urine had been passed, it turned out that none had been secreted. Sometimes, however, it is the effect of another cause, which the use of the warm bath will be found to remove; and this should always, therefore, be employed four-and-twenty hours after the birth of the infant, if it has not by that time passed any water.

It now and then happens, but fortunately very rarely, that some physical obstruction exists. It is always important, therefore, for the nurse to pay attention to the above point; and it is her duty to direct the attention of the medical man to the subject, if anything unusual or unnatural be present. The same observation applies to the *bowel* also; and if twelve hours pass without any motion, the parts should be examined.

Swelling of the Breasts.—At birth, or two or three days subsequently, the breasts of the infant will frequently be found swollen, hard, and painful, containing a fluid much resembling milk. Nurses sometimes endeavour to squeeze this out, and thus do great mischief; for by this means inflammation is excited in the part, and occasionally abscess is the result.

If the breasts are simply slightly enlarged, it is unnecessary to do anything more than rub them two or three times a day, and very gently, with warm almond-oil; and a little time will restore them to their proper size.

If, however, they are inflamed, hot, painful, with

a red surface, and unusually large, a bread-and-water poultice must be applied every three or four hours, which will generally prevent either the formation of matter or any other unpleasant consequence. In a few days, under this treatment, they will usually subside, and be quite well.

Discharge from the Eyes.—About the second or third day after the child's birth an inflammation sometimes attacks the eye, which is of considerable consequence, the more so from its commencing in a way not calculated to excite the attention or alarm the fears of the mother or nurse. The child cannot express its sensations, and the swelling of the eye conceals the progress of the disease, so that serious mischief is frequently done before the medical man sees the patient. In the first place, the inflammation is not immediately noticed ; and in the second, the measures employed are frequently insufficient to check its progress : hence it causes more blindness (I refer to the lower classes of society more particularly) than any other inflammatory disorder that happens to the eye ; and the number of children is very considerable whose sight is partially or completely destroyed by it. The parent and nurse are apt to suppose, when this inflammation first appears, that it is merely a cold in the eye, which will go off ; and the consequences which I have just mentioned take place, in many cases, before they are aware of the danger, and before the medical man is resorted to for assistance.

I only desire, in mentioning this complaint, to inform the attendants of the lying-in room of its great importance, that it may not be trifled with, that upon its first approach the physician may be informed of it,

and that the treatment he directs for its cure may be sedulously and rigidly followed.

The inflammation commonly comes on about three days after birth ; but it may take place at a later period. It may be known by its commencing thus :—When the child wakes from sleep, the eyelids will be observed to stick together a little ; their edges will be redder than natural, and especially at the corners ; the child experiences pain from the access of light, and therefore shuts the eye against it. A little white matter will also be observed lying on the inside of the lower lid. After a short time the lids swell, become red on their external surface, and a large quantity of matter is secreted, and constantly poured from the eye, the quantity of discharge increasing until it becomes very great. But enough has been said to point out the importance of the disease, and the signs by which it may be recognised at its first approach.

Keeping the eye free from discharge, by the constant removal of the matter secreted, is what the medical man will chiefly insist upon ; and without this is done, any treatment he may adopt will be useless ; with it, there is no doubt of a successful issue of the case, provided his attention has only been called to it sufficiently early.

Hare-lip.—This is a blemish too well known to require a formal description. The questions most interesting to the mother in relation to it are—How is her child to be nourished that is born with it ? and when ought an operation to be performed for its removal ?

The Mode of Feeding the Infant.—If the defect is but trifling, the infant will be able to suck, provided the mother's nipple is large, and the milk flows freely

from it. If this is not the case, the difficulty may be obviated by using the glass nipple-shield described on p. 206. I have known this to answer the purpose admirably, when the mother had previously despaired of nursing her infant, from the nipple being too small for it to grasp it.

If, however, the defect exists in a still greater degree, feeding by means of the spoon must be resorted to; the greatest care being necessary as to the quantity, quality, and preparation of the food, for directions about which the reader is referred to the section on Artificial Feeding in Chapter IX.

Caution in reference to the Operation.—I would strongly warn parents against desiring the performance of the operation, for the removal of this deformity, *too early*. Various considerations contribute to make the distressed friends wish this. But very seldom indeed—except the deformity be very great, and implicating other parts besides the lips—will the operation be required, or ought it to be resorted to, before the third or fourth month of life; indeed, it may well be deferred until the sixth month. But, if the deformity interfere in any way with the child's nutrition and growth, it may be undertaken much earlier without any risk.

The most proper age for removing this deformity by operation is during the sixth month.

Bleeding from the Navel-string.—Bleeding from the navel-string will sometimes take place hours after it has been supposed to be carefully secured. This will arise either from the cord being carelessly tied or from the cord being unusually large at birth, and in a few hours shrinking so much that the ligature no longer sufficiently presses on the vessels. In either case it is of importance that the attendants in a lying-

in room should understand how to manage this accident when it occurs, that it may not prove injurious or fatal to the child.

The Mode of arresting the Bleeding.—The clothes of the child, and the flannel roller, must be taken off; the whole cord without delay must be unwrapped; and then a second ligature be applied below the original one (*viz.* nearer to the body of the infant) taking great care that it shall not cut through the cord by being drawn too tight, but at the same time drawing it sufficiently tight to compress the vessels.

The ligature should be composed of half-a-dozen pieces of coarse thick linen thread, and not of tape, or bobbin, or any substance of this nature, as it cannot be relied on for this purpose.

Ulceration, or imperfect healing of the Navel.—The cord separates from the navel generally between the fifth and fifteenth day from delivery; and the part usually heals without giving the slightest trouble.

This, however, is not always the case; for sometimes a thin discharge will take place, which, if the part be examined, will be found to proceed from a small growth about the size, perhaps, of a pea, or even less. This must be removed by applying a little powdered alum; or, if necessary, it must be slightly touched with blue-stone, and afterwards dressed with calamine cerate.

At other times, though fortunately very rarely, excoriation of the navel and the parts around takes place, which quickly spreads and assumes an angry and threatening character. If, however, the attention of the medical man is called to it early, it will always do well: until his directions are given, apply a nicely made bread-and-water poultice.

Bleeding from the Navel.—Sometimes, a day or two after the cord separates, or at the time of separation, bleeding takes place from the navel. Fortunately this very seldom occurs; and I only mention it to observe that, upon its occurrence, the point of the finger should be placed over the part, and pressure steadily applied until medical assistance is obtained.

Now and then, in these cases, a growth sprouts up and bleeds. Let this be touched with lunar caustic, or any other astringent application, or let pressure be employed, still it will bleed—not freely or in a stream, but there will be a constant drain from the part; and the infant, as a consequence, will waste and be brought to death's door. Excise it, it will only make matters worse. The treatment in this case consists in simply winding a piece of very narrow tape round the growth and leaving it untouched. The bleeding will soon cease; granulations will sprout over the upper margin of the tape; in a very short time it will, as it were, strangle the disease; and thus a complete cure is accomplished.

Jaundice.—It frequently happens, during the first or second week after birth, that the skin of the child becomes very yellow, and it has all the appearance of having the jaundice. This gives rise to great distress to the parent when she perceives it, and she becomes very anxious for the medical man's next visit.

Now, ordinarily it is of no consequence, commonly disappearing spontaneously, and requiring no medical treatment. If, however, it does not go off in two or three days, a tea-spoonful of castor-oil should be given once, or oftener if necessary.

It is of course possible for an attack of real jaundice to occur at this early period, and a disease of a

very serious nature will then have to be dealt with ; but, except as a consequence of malformation (a very infrequent occurrence), it is not likely to arise ; and therefore jaundice during the first and second week after delivery need not excite alarm.

Tongue-tied.—This arises from the bridle under the tongue being too short, or its attachment to the tongue extended so near the tip as to interfere with the motions of the organ in sucking, and in after years in speaking. It is a *rare occurrence*, although nothing is more common than for medical men to have infants brought to them supposed to be labouring under the above defect.

How its Existence may be determined.—The best guide for a parent to determine whether it exists or not, is for her to watch whether the infant can protrude the tip of the tongue beyond the lips ; if so, it will be able to suck a good nipple very readily, and nothing need or ought to be done. No mother would unnecessarily expose her infant to an operation which, unless carefully performed, is not altogether unattended with danger ; and if she suspects any defect of this kind to exist, she has only to observe the circumstance mentioned above, to satisfy her mind upon the subject.

Moles and Marks on the Skin.—The supposed influence of the imagination of the mother, in the production of the above appearances in the texture of the skin of the infant, has been fully discussed in the First Chapter. We have now to say a word upon the probable effect of their presence upon the health of the child.

They may be divided into two classes—the brownish mole, and claret stain ; and small, but somewhat elevated tumours, either of a dark blue livid colour, or of a bright vermilion hue.

Moles and Stains.—They are of no importance, as far as the health of the infant is concerned. If situated in the face, however, they frequently cause great disfigurement—as the claret stain, which may be seen sometimes to occupy nearly half the face. But they happily do not increase in size, remaining stationary through life; and as any operation that might be proposed for their removal would only cause an equal, if not greater deformity, they ought to be left alone.

Coloured Spots or Tumours.—These vary in their number, size, and situation. The same child is sometimes born with many of them. They may be as small as a pea, or as large as a crown-piece. They are not only found on the skin, but on the lips, in the mouth, and on other parts of the body. These also sometimes remain stationary in their size, having no tendency to enlarge, unless, indeed, subjected to pressure. But as they frequently require surgical aid—in which case, the earlier the application of remedial measures the less severe is their kind, and the greater the probability of a speedy and successful result—so it is *always* important for the mother *early* to obtain a medical opinion, that the measure of interference or non-interference may be decided.

CHAPTER VIII

OF THE BREASTS.

Sect. 1.—Sore Nipples.

Their Prevention.—Many things may be done to prevent sore nipples, one of the most painful and troublesome circumstances that can arise during suckling.

Prior to confinement, and especially in a first pregnancy—more particularly where the nipple is small, and the skin covering it thin and delicate—the nipples should be prepared for suckling. This must be attended to during the last six weeks. The mode to be adopted, however, has already been pointed out in the First Chapter; and the reader is referred to the directions there given.

After delivery has taken place, it is a common error to put the infant too early to the breast. In a first confinement no milk, usually, is secreted until after the third day, and the most universal practice of continually putting the child to the breast before this period has transpired can only do harm. *It chafes, heats, and irritates the nipple*, and frequently renders it unfit for use when the milk really does come. This remark, however, does not apply to subsequent confinements.

Then, after suckling has fairly commenced, if you would prevent sore nipples, *you must not allow the*

child during the night to have the nipple constantly in its mouth—a very common and injurious practice. It not only causes sore nipples, but is frequently seriously injurious to the infant's health.

And lastly, if after two or three days' nursing you find the nipples *at all disposed to get tender*, before they become sore, resort to the use of 'Wansbrough's Metallic Shield.' They are manufactured by Maw and Son, and are sold by all chemists and instrument-makers. Being made of lead, they are safe and pliable, and are supposed, when wet with the milk, to form a lactate of lead, which acts beneficially on the nipple. During the last eighteen months I have given these shields a fair trial, and in almost every case have found them successful in *preventing* sore nipples. To be of any avail, however, they must be used *before* anything like a sore or crack takes place; for whilst they will prevent sore nipples, they will not cure them. They are to be constantly worn in the intervals between the acts of nursing, and for the latter object are to be removed, and the nipples *carefully* washed before the infant is put to the breast. Any one who has suffered in previous nursings should wear these shields from the day after her delivery.



FIG. 5.

Means of Cure.—1. *If they are tender and fretted, exquisitely painful to the touch, and also very hot and dry, but not chapped*, apply a bread-and-water poultice every four hours, fomenting the part with warm water, or the decoction of poppy-heads, every time it is renewed. And when the unnatural heat and great pain of the nipple is relieved, apply, when the child is not at the breast, the metallic shield.

2. *But the skin of the nipple may have become*

excoriated, or a crack may have taken place at its junction with the breast ; and every time the infant sucks, the nipple bleeds, and the mother suffers exquisite pain.

The treatment here consists, *first*, in the adoption of some means by aid of which the milk may be drawn by the child without its lips and tongue coming in contact with the nipple, and, *secondly*, in the application of remedies for the cure of the excoriation or crack.

To accomplish the first object, shields made of glass, wood, ivory, or silver are used ; and the shield being covered with an artificial or prepared cow's teat, the child sucks through this, without biting or irritating the nipple. This contrivance, however, frequently fails, not because it is not good, but because it is badly managed. It sometimes does not succeed because a shield of the proper size is not selected, the nipples of different women varying much in this respect. Be sure, therefore, that the shield is of the precise magnitude required. One too small would completely defeat the object, preventing the flow of milk and aggravating the sores ; and, on the other hand, one too large, although it might not hurt the nipple, would, by preventing a complete vacuum, render the infant unable

to draw the milk. The failure, in either case, is naturally laid to the shield.

Perhaps the simplest and most effectual kind of shield is one made of glass, and provided with a tube and teat. It is figured opposite.



FIG. 6.

The mother will of course understand that, in order

to work well, it must fit accurately over the breast. It is even well to smear the breast with a little honey or cold-cream, so that it adapts itself closely, and allows of a complete vacuum being formed when the child begins to suck at the teat. It ought not to be too large; nor too small, otherwise the little ducts in the nipple will be compressed, and the milk will not be able to flow out.

There are many other kinds which answer very well. I have figured another very good instrument. It is made of boxwood, and is provided with an india-rubber teat. Its chief advantage over the first-named is, that it is less likely to break or crack. Either instrument becomes useless if cracked or snipped in any way.



FIG. 7.

I would recommend every woman subject to sore and cracked nipples in consequence of the great delicacy and thinness of the skin, at the next confinement, *from the first* to wear the metallic shield during the interval, and the glass nipple shield (Fig. 6) during the act of nursing. I once attended a lady with her fourth child, who, adopting this plan, was able with great ease and comfort to suckle this child through the whole period, although with the previous children this had been impracticable beyond ten days or a fortnight, from the irritable and excoriated condition of the nipples, to cure which every means were diligently used and failed.

For the cure of the excoriated and chapped nipple any one of the following remedies will be found useful:—Half an ounce of brandy to eight ounces of rose-water; four grains of the sulphate of zinc, dissolved in one ounce of rose-water: two grains of the sulphate of

copper, in one ounce of camphor-julep; or one grain of the nitrate of silver, in one ounce of rose-water. One or other of these lotions, by means of linen dipped into it, is to be applied frequently. If they fail, the surface of the sores or cracks may be *slightly* touched, once a day, with the nitrate of silver in substance; and in the intervals the part kept smeared with an ointment composed of two drachms of honey and one ounce of spermaceti-ointment; or half a drachm of Peruvian balsam and one ounce of spermaceti-ointment, or simply with cold cream.

The nipple should always be washed with a little milk-and-water, both before and after suckling, which, it will be remembered, is to be effected *through the shield*.

These measures are commonly successful; if, however they should not succeed, and the parent's health suffer from the continual pain and irritation attendant upon nursing, she must obtain either a wet-nurse, or rear the child by an artificial diet.

Sometimes one nipple alone is affected: when this is the case, the child should not be allowed to suck from this breast until the soreness and cracks are removed. By adopting the treatment before directed, this will be readily effected; and it is only necessary to add, that if the breast becomes distended with milk, a saline aperient (two drachms of Epsom salts in an ounce of distilled peppermint-water) should be taken once or twice a day; that is sufficiently often to prevent distension of the breast from the milk, but not so as to drive it away.

In all these cases the dress must be carefully kept from irritating the sore nipple. This is usually effected by means of a little cup of wax or a limpet-shell, the

edge of which is covered with sealing-wax. Protectors, however, are made expressly for this purpose, and answer best. They may be of ivory, or lead, or silver, according to the means of the buyer.

Sect. 2.—Uncontrollable Flow of the Milk.

This occasional evil seems to arise either from some original defect in the structure of the nipple itself, or from the milk tubes, which terminate at the nipple's point, having lost their elasticity and therefore their power of retaining the milk, so that the mouths of these little tubes never being closed, during the intervals of suckling, there is a constant draining of milk from them. This uninterrupted flow not only proves a source of great annoyance to the mother, but, after a time, seriously affects her health.

The means proposed to remedy this defect have been many; but I am obliged to confess they often fail. Benefit may be obtained by frequently applying a lotion containing one drachm of alum dissolved in a pint of spring water; or thirty grains of the sulphate of zinc, in a pint of the decoction of oak-bark. The breast must be exposed for at least ten minutes after the application of the lotion, and the nipple washed with milk-and-water before the child is put to it. A glass receiver, made for the purpose of catching the milk, must be constantly worn, and the breast have but slight clothing.

Or the whole breast, except the nipple and areola, may be painted with the liquid extract of belladonna, mixed with an equal quantity of glycerine. This is a very effectual remedy; but it is also a dangerous one, on account of the *poisonous* nature of the drug. It

must be used with great caution, therefore, and the breast must be carefully washed with soap and water before the child is allowed to suck after this preparation has been applied. Cover it over with two or three thicknesses of soft linen.

These measures I have always found successful where the case has not been in its worst form ; if, however, such a case should occur (fortunately they are very rare), and the treatment is of no avail, the flow of milk not checked, and the health of the mother decidedly and seriously affected, the child must be weaned, and the milk dispersed. This becomes absolutely necessary for the mother's safety.

Sect. 3.—Milk Abscess, or Bad Breast.

There is no evil that can arise in the lying-in room more dreaded by the patient than 'a bad breast.' And the reason why it so frequently occurs is, either that false delicacy and fear on the part of the patient lest the breast should be examined almost constantly induce her to submit its management to the nurse ; or, the nurse herself supposing she is equal to the task, the medical attendant is not consulted until so much mischief is done that he can but in part repair it. Inadequate means are thus advised and persevered in, until the time for the successful application of the proper remedies is irretrievably lost.

The fact is, that there is no inflammatory complaint which requires more judicious and active treatment than that which attacks this organ. On this account, not a moment is to be lost in temporising ; for an impression must be made, and that quickly, on the disease, or all efforts will be unavailing. And

again, I must add that there is too frequently a want of perseverance and conformity, on the part of the nurse, to the prescriptions of the medical man, after he has seen the breast. Both these circumstances, then, should be counteracted by the good sense and vigilance of the patient.

But she cannot accomplish this desirable purpose, unless some hints are given her upon the subject. This is what I now propose, not to enter upon a full detail of the treatment of mammary abscess, but only to point out in what the general management consists, that she may be able to carry out fully the intentions of her medical adviser, so that they may not be thwarted by ignorance on the one hand, or a want of proper diligence and perseverance on the other.

Inflammation of the breast, terminating in abscess, may take place at any period of nursing; but it is more readily excited within a month after delivery. It sometimes occurs after a first delivery, upon the first coming of the milk; most frequently, however, about the third or fourth week.

1. How to prevent a bad breast upon the first coming of the milk.

About the third day after delivery, in a first confinement, and occasionally in subsequent confinements also, the breasts become hard, swollen, and very soon painful. And as the process of the secretion of the milk proceeds, the breasts, more swollen than ever, appear to be made up of large and extremely hard lumps or knots, and become very heavy and very tender. After a time the milk is 'at its height,' as it is termed; and if the breasts be fomented or gently pressed, a small quantity of milk will be seen oozing

from the nipples. When the infant is placed at the breast, the act of suckling will be attended with some degree of pain, but followed by considerable relief; and as the milk flows, the hardness will diminish, the general swelling subside, and the milk being freely and frequently drawn off, the feelings of the patient will become more comfortable, and all pains removed; the breasts will be distended only when some few hours have elapsed since they were drawn, and thus *lactation* will be established.

This is the usual mode. But it may happen that, from some mismanagement, from the flatness of the nipple, or because some cause prevents the milk running freely, the distension of the breast is not relieved; it gets harder, heavier, larger, extending into the armpits, and more painful than ever; inflammation ensues; a bad breast is threatened. To prevent this the following treatment should be adopted:—

The bowels should be kept relaxed by saline aperients; the thirst allayed by effervescing saline draughts, and no other fluid taken; the breast fomented every third hour for five minutes, with flannels wrung out of warm water; tenderly rubbed with a liniment warmed, and composed of one ounce and a half of soap liniment and three drachms of laudanum, and afterwards each breast completely enveloped in a large and well-applied warm bread-and-water poultice. And last of all, the breasts must be supported by a large silk handkerchief passed under each, and then tied over the neck, so as entirely to prevent their hanging by their own weight.

After the above measures have been pursued perseveringly for six-and-thirty hours—and the principal points to which the attention of the mother should be

directed are, the regular fomentation of the breasts, the gentle friction with the liniment, the application of the warm large poultices, well-made, not so dry that they will irritate, and not so moist that they will make her wet and miserable, and, last of all, though not least, the well-applied support—after these means have been efficiently employed for six-and-thirty or eight-and-forty hours, the breasts will begin to mend, great

FIG. 8.



relief will be experienced after the application of the poultices, and, when taken off, that part which was next the nipple will be found saturated with milk. From this time they must be drawn regularly by the attendant, or by means of a pump. The little diagram represents an exceedingly convenient form of breast-glass, either for self-use or otherwise, as most convenient.¹ By it the breast can be relieved at a time

¹ The Editor takes this opportunity of thanking Mr. Charles Maw, of the well-known firm of Maw, Son, and Thompson,

when the infant would be too weak to effect this, even if it were wise to allow it to try. The extreme swelling and tension having somewhat subsided, the child will be able to grasp the nipple and draw the milk, and, if regularly applied, prevent any injurious accumulation.

If the breasts subsequently continue lumpy and hard, the liniment should still be rubbed in every four hours, and in the intervals a piece of flannel, soaked in some of it, warmed, should be laid over the breast, which is then to be covered by a piece of oiled silk, to prevent evaporation, and keep the part nicely moist. And thus, by proper management, abscess, or bad breast, at this period, may and ought to be prevented.

2. How to prevent a bad breast when threatened about the third or fourth week, or afterwards.

This complaint much more frequently occurs about three or four weeks after delivery, or even after the female has left the lying-in room. It is at this time generally caused, either by the direct application of cold, by the pressure of the stays, or as a consequence of sore nipples. I have elsewhere pointed out how the latter may be avoided, or, if produced, cured.

And here I would observe that the moment any uneasiness, heat, tension, or anything like a lump forming in the bosom is felt, or that the child has the slightest difficulty in drawing the milk, the medical man should at once be informed of it, instead of the time being wasted in trying this little remedy or that.

Aldersgate Street, for his kindness and assistance in the selection of many instruments recommended in this book, as also for the loan of the casts from which the illustrations have been printed.

The early application of the proper remedies is of vital importance here.

The progress of the case before matter forms, and when remedies will be of avail to prevent this occurrence, will be this:—The part will enlarge, become tense, heavy, and painful, and the surface will soon appear red; or the enlargement will be irregular, and seem to consist of one or more large lumps, situated in the substance of the breast—this difference arising from the particular part of the breast which is affected. The milk in either case will be partly suppressed, or altogether so.

The means to prevent the inflammation terminating in an abscess will consist in the application of three or four leeches to the part, if the patient be of a full plethoric habit; and the exhibition of saline purgatives; a low and dry diet; keeping the inflamed breast from hanging down; gentle friction with the soap and opium liniment, and preventing the over-distension of the breast from milk by its occasional abstraction.

Saline Purgatives.—These are essentially necessary, so as to produce three or four watery motions in the four-and-twenty hours. And if this is not effected, the medical attendant ought to be informed of it.

Low Diet.—A spare and dry diet is called for. This diminishes the quantity of blood sent to the breast, and thus lessens the amount of distension and milk secreted.

Gentle Friction.—This is to be effected with a liniment, composed of three-fourths of soap-liniment and one-fourth of laudanum. A little should be poured into a saucer and placed upon the hob to warm, and then be very gently rubbed over the breast for about four or five minutes. After this, a piece of flannel the

size of the breast, with a hole in the centre for the nipple, is to be soaked with the liniment and put upon it, and then covered by oiled silk to prevent evaporation; this is to be repeated every three hours. The breast at this time is better without a poultice.

Drawing the Milk.—This ought only to be resorted to when the breast is painfully distended with milk, *because the very act of doing this promotes further secretion.* The object here is just to *relieve the over distension*, nothing more; and it is at this period to be accomplished gently and delicately by the nurse only, as the efforts of the infant would be likely to fail, or, if not, they would be so violent as to be productive of mischief.

✓ **Keeping the Breast from hanging down.**—This is an important point to attend to—may be easily accomplished—and, if well-managed, the ease and comfort arising from it will be manifest enough. For this purpose the breast may be suspended in a silk handkerchief from the neck, and thus firmly and securely held as in a sling. Even when the liniment is being applied, the hand should be placed under the breast for its support, so that it should at no time be permitted, in its present large and heavy condition, to hang by its own weight. The patient will be easiest in the bed or on the sofa.

These measures, when fairly applied, and perseveringly followed out, prevent the formation of matter; the inflammation subsides; a bad breast does not take place; the patient perfectly recovers, and is able to suckle her infant as well with this breast as the other.

But suppose the formation of the abscess is unavoidable, and matter forms? Then, as soon as the part affected is felt to throb, a large bread-and-water

or linseed-meal poultice should be applied; the abscess should be lanced, as soon as this can be done; and, lastly, the patient must be careful that the incision made into it is kept *freely* open during the process of healing, in order to allow the matter easily to escape. If the poultice, after a little time, should fret the skin, so as to produce an eruption, it may be exchanged for a piece of lint, placed over the opening of the abscess, and over the breast itself a piece of linen spread with spermaceti-ointment. This eruption need give no anxiety, as it frequently does: it is of no consequence, and will soon disappear after the poultices are discontinued.

Is the Child to suck from the affected Breast?—

If the matter from the abscess is not mixed with the milk, and the abscess is small, it may do so with advantage to the breast, and no detriment to itself; but if much of the bosom be involved in the disease, the child should be put to the other breast alone.

If the Milk has left the Breast, is it likely to return?—In some instances it soon returns, and the mother may then nurse the infant from it, as well as from the other breast; more frequently, however, it does not, and then the child must be brought up on one breast only.

Will the Hardness which remains in the Breast after the Abscess has healed be removed?—Yes, in time, and the mother need not give herself any uneasiness upon this point. I know that this circumstance gives rise frequently to the most painful and gloomy apprehension; cancer is supposed to be likely to ensue. Now, there is not the slightest foundation for any such fears; the hardness will remain for a long time, but only because a long time is required for its

absorption, which may be promoted by the part being gently rubbed twice a day with the soap liniment.

I have only to add, that whether your medical attendant pursue the plan of treatment for the management of a bad breast just detailed, or adopt one in some respects differing from it, do not fail to give him an *early* opportunity of attacking the disease; and when he has pointed out the plan to be pursued, follow his directions to the letter, not permitting the suggestion of another in any way to interfere with, or alter, that plan.

CHAPTER IX.

OF NURSING.

Sect. 1.—The Duty and Advantages of the Mother Nursing her Infant.

It may be called a fixed law of nature that a *healthy* woman should suckle her offspring. There are exceptions; but as a general rule it holds good, and like all other laws in nature, it cannot be broken with impunity. To refuse to comply with this arrangement of Providence, is to forego the first reward of previous suffering. It is plainly intended to cherish and increase the love of the parent herself, and to establish in the dependent and helpless infant, from the first hours of its existence, those associations on which its affection and confidence afterwards will be most securely founded. The evidence of design is manifest. So long as the child is unborn, no milk is secreted in the mother's breast; but no sooner does she give it birth, than this fluid is prepared and poured forth, admirably fitted in its qualities for the rapid growth of its delicate organism. It embraces the three principles (the albuminous, the *oleaginous*, and saccharine) of which the diet of man consists, in his most perfect physical development and greatest intellectual vigour, and, moreover, is the only food supplied by nature in which such a combination does exist. 'It is a model,' says Dr. Prout,

of what an alimentary substance ought to be—a kind of prototype, as it were, of nutritious materials in general.' And thus it continues to be secreted day by day, until the time arrives when, the digestive organs having acquired the power of preparing for themselves, from the various substances which constitute our diet, this compound necessary for our sustenance and growth, milk is no longer required.

Nursing would also seem to be as beneficial to the system of the healthy woman as to her child. In the lying-in month it undoubtedly is the means of preventing or diminishing the tendency to disease. During the whole period of nursing it contributes greatly to preserve and promote the mother's health; for no period of the woman's life, generally speaking, is so healthy as this; and many a woman, who has previously been delicate, will become robust and strong at this time. In most women it prevents the too frequent recurrence of pregnancy, than which nothing tends so surely to undermine the constitution and to induce a premature old age. It diminishes the disposition to cancerous affections of the breast; for although women who have had children are still liable to these, 'yet it is undoubtedly true that breasts which have been unemployed in suckling, in women who have been married but are childless, and in those who have remained single, are more prone to malignant disease than those of women who have nursed large families.'

It is very clear that there is no nourishment so well suited to the constitution of the individual child as its own mother's milk; there is a natural relation between the two, which is not so perfectly realised when the child is transferred to another breast. This

practice, however, when it does not arise from necessity, is not nearly so prevalent as in former times. There are few women in the present day disposed to devolve the dearest and greatest privilege of a mother on a stranger. But whenever, without due reason, the *healthy* woman of fashionable life—from caprice, the fear of trouble, the love of pleasure, the anxiety to avoid the confinement which suckling necessarily imposes, or any cause of a like frivolous kind—feels disposed to break this law of her being, it behoves her to look to the possible consequences to herself, of being out of harmony with it; for no one can fail to perceive the significance of the facts to which allusion has just been made. Animals, even those of the most ferocious character, show affection for their young; *they* do not forsake or neglect them, but yield them their milk and watch over them with the tenderest care. Woman, who is possessed of reason as well as instinct, must not manifest a love below that of the brute creature.

There are circumstances undoubtedly which disqualify the parent from the performance of this duty; and I believe such individuals for the most part will be found less liable to the consequences of such neglect (just referred to) than the robust and healthy. Sometimes a healthy but delicate state of the system will forbid it. Here, however, it will be well to make the attempt, if sanctioned by the medical attendant; and if persevering attention is given to the various measures which invigorate the system, it may be that the delicate woman will become strong and be enabled to nurse beneficially to herself and her child. The experiment should always be fairly tried, and never given up hastily; and if it fail, the consequences of the trial, under judicious medical superintendence, will not be

attended with injury. Sometimes a defect in the structure of the breasts or nipples renders them unfit to yield milk ; here there is no remedy, and the disqualification must be submitted to. Sometimes the defect is simply in the nipple. It may be too small and sunken ; or, from disease, it may be excoriated or cracked, and whenever the attempt to suckle is made, it is attended with great agony. Perseverance in the use of proper means will frequently remedy this in both cases.¹ There are now and then, however, instances in which experience strongly proves the parent ought most assuredly not to attempt nursing her offspring, when it would inflict irremediable injury ; and to these cases I shall devote the next section.

Sect. 2.—Of Mothers who ought not to Suckle.

There are some women who ought never to undertake the office of suckling, not so much on account of their own health, as that of their offspring.

The Woman of a consumptive and strumous Constitution.—In the infant born of such a parent there will be a constitutional predisposition to the same disease ; and if it is nourished from her system, this hereditary predisposition will be confirmed. The constitution, then, of such a female renders her unfit for the task of nursing ; and however painful to her feelings it may be, she must recollect that it will be far better for her own health, and infinitely more so for that of the child, that she should not even attempt it—that her own health would be injured, and her infant's, sooner or later, destroyed by it. The child,

¹ See p. 206.

however, must not be brought up by hand. It must have a young, healthy, and vigorous wet-nurse; and in selecting a woman for this important duty, very great care must be observed.¹ The child should be nursed till it is eight or ten months old. In some cases it will be right, and even necessary, to prolong the time of suckling; but this must always be referred to the medical attendant, and then it may and probably will be desirable to have a fresh wet-nurse, whose milk will contain more nourishment, and one better suited to the requirements of a backward child. If the child is partially fed during the latter months (from necessity or any other cause), the food should be of the lightest quality, and constitute but a small portion of its nutriment. Such a child must have a perfectly pure atmosphere to breathe, and sufficient exercise. All derangements of the digestive functions—such as thrush, vomiting, diarrhoea, offensive motions—should be brought under the notice of the medical attendant. By a rigid attention to these measures the mother adopts the surest antidote indirectly to subdue the constitutional predisposition to that disease, the seeds of which, if not directly inherited from the parent, are frequently developed in the infant during the period of nursing; and at the same time she takes the best means to engender a sound and healthy constitution in her child. This, surely, is worth any sacrifice.

If the infant derives the disposition to a strumous constitution entirely from the father, and the mother's health be unexceptionable, then I would strongly advise her to suckle her own child.

¹ See Choice of a Wet-nurse, p. 244.

The Mother of a highly susceptible, nervous Temperament.—The mother who is alarmed at any accidental change she may happen to notice in her infant's countenance—who is excited and agitated by the ordinary occurrences of the day—such a parent will do her offspring more harm than good by attempting to suckle it. Her milk will be totally unfit for its nourishment; at one time it will be deficient in quantity, at another so depraved in its quality, that serious disturbance to the infant's health will ensue. The habit of 'giving way,' on which for the most part all this depends, is now wrong, if it never was before. Self-control is in general the thing that is needed. There are, however, exceptions to this as the cause. The young and inexperienced mother, who is a parent for the first time, and altogether ignorant of the duties of her office, and at the same time most anxious to fulfil them faithfully, is but too frequently an instance in point, although at a future period she will generally make a good nurse. The following is an illustration. A young married lady gave birth to a plump, healthy boy. Everything went on well for three weeks, the mother having an abundant supply of milk, and the infant evidently thriving upon it. At the expiration of this time, the child had frequent fits of crying; the bowels became obstinately costive, the motions being unhealthy, and passed with great pain. It became rapidly thin, and its flesh so wasted and flabby, that it might be said literally to hang on the bones. It would now commence screaming violently every time it left the breast, beating the air with its hands and feet, and continued in this state till it fell asleep from sheer exhaustion, the fit recurring again and again, after every nursing. It was evident that the infant's

hunger was not satisfied or its body nourished by the parent's milk, which, although abundant in quantity, was seriously deteriorated in its nutritive quality. This was caused, I believe, from great anxiety of mind. The monthly nurse became suddenly deranged; and the whole responsibility and care of the child thus devolved upon the mother, while she was entirely ignorant of her duties. A wet-nurse was obtained. In a few hours after this change was effected the screaming ceased, the child had quiet and refreshing sleep, and in twelve hours a healthy motion was passed. The child gained flesh almost as quickly as it had previously lost it, and is now a fine and healthy boy. The mother has since had two children, and proved a good nurse.

Whenever there has previously existed *any nervous or mental affection* in the parent, wet-nurse suckling is imperatively required, and, with a judicious management of childhood, will do much to counteract the hereditary disposition in the offspring.

The Mother who only nurses her Infant when it suits her Convenience, ought not to engage in this Duty at all.—The mother who cannot make up her mind exclusively to devote herself to the duties of a nurse, and give up all engagements that would interfere with her health, and so with the formation of healthy milk, and with the regular and stated periods of nursing her infant, ought never to suckle. It is unnecessary to say why; but I think it right, for the child's sake, to add, that if it does not sicken, pine, and die, it will not have to thank its parent; and disease, in all human probability, will be generated in its constitution, to manifest itself at some future time.

The child, then, under all the foregoing circum-

stances, must be provided with its support from another source ; and a wet-nurse is the best.

Sect. 3.—Rules for Nursing the Infant.

✓ From the first moment the infant is applied to the breast, it must be nursed upon a certain plan ; this is essential to the well-doing of the child. One of the most fruitful sources of disease in the early part of the infantile life is improper management in relation to diet ; and a large portion of the suffering and mortality which occur during this period arises from this cause alone. Regularity, however, is necessary to the parent's health.

The Plan to be followed until the Breast-milk is established.—From the mother's breast alone, in some cases, the child will be able from the first to derive its nourishment ; but in the majority of instances, particularly in first confinements, only in part until the third or fourth day after delivery. Where this deficiency exists, it must be supplied by an artificial diet as like the breast-milk as can be found. This is obtained by taking either of *ass's milk and boiling water equal parts*, or of *cow's milk one-third and boiling water two-thirds, slightly sweetening the latter mixture with loaf-sugar*. A few spoonfuls of one or the other of these (and the ass's milk is to be preferred) are to be given through the sucking-bottle and not from the boat or spoon. This will secure the infant's stomach from repletion. It will not suck more than it requires—appetite being at this age a better guide than, perhaps, ever after. *The act of sucking promotes the flow of saliva, and its mixture with the aliment that is being swallowed, which is*

✓

necessary to digestion. Attention to this point will prevent derangement of stomach, with its train of acidity, flatulence, and colic. The breast-milk being fully established, and furnished in sufficient quantity, the artificial food is to be put aside, and from this time nourishment is to be obtained from the breast alone.

The Plan to be followed until the first Teeth appear.—*For a week or ten days* the appetite of the infant must be the mother's guide as to the frequency in offering the breast. The stomach at birth is feeble, and as yet unaccustomed to food ; its wants, therefore, are easily satisfied, but they are frequently renewed. An interval, however, sufficient for digesting the little swallowed, is obtained before the appetite again revives, and a fresh supply is demanded.

The week or ten days having expired, the infant is to be nursed until the end of the lying-in month at *regular intervals* of every three hours night and day. *This will allow sufficient time for each meal to be digested,* and the stomach to regain the time necessary for the digestion of the next, and tend very essentially to promote the due and healthy action of the bowels. Such regularity, moreover, will do much to obviate fretfulness, and to prevent that constant cry which it appears to the parent and to all about her that nothing but perpetually giving the breast to the infant can allay. The evil, indeed, generally grows out of irregular nursing. The young mother, considering every expression of uneasiness as an indication of appetite, runs into the very serious error of offering the breast at all times and seasons, so that frequently the child has not left the breast ten minutes before it is again put there. *In consequence of this injurious and dangerous practice, the stomach of the infant becomes*

✓ *overloaded, the food remains undigested, the bowels disordered, fever excited, and by-and-by the infant becomes seriously ill, and is, perhaps, eventually lost ; when, by simply observing from the first the rules of nursing laid down, it might have continued healthy, and grown into a vigorous child. These cases of indigestion in the infant, caused by irregular and too frequent nursing, are continually occurring ; and medicine is given without permanent relief, because the cause of the mischief is not removed—it is overlooked. Fortunately, in most cases, the mother, tired of a fruitless repetition of medicine, seeks further aid, when, by simply adopting a more rational course, the child's symptoms are removed, healthy digestion restored, and no relapse occurs, this happy issue being perhaps obtained without any further employment of medicine.*

✓ *The lying-in month having expired, it is advisable to alter the periods of night-nursing, or rather to do away with night nursing altogether ; that is, to suckle the infant as late as ten o'clock P.M., and not put the child to the breast again until four or five o'clock the next morning. I am constantly in the habit of advising this measure ; and I have always found it, when adopted, of great advantage to the mother's health, and never attended by the slightest injury to the child. With the latter it soon becomes a habit ; to induce it, however, it must be taught *early*. It is true that, where there is much delicacy and a feeble constitution, it will be necessary sometimes to postpone it a little longer. This very delicacy, however, though it demands a more frequent supply, calls for the greatest care in affording it, lest it be too frequent and too great in quantity. And be it remembered by*

the reader, that this is only an occasional exception to a most important principle, the adoption of which should never be delayed except from paramount necessity. Indeed, so convinced am I of the importance to the nursing mother of calm, quiet, and undisturbed repose during the night, that, whenever circumstances will allow of it, I would advise that the child from this time no longer sleep in the bedroom of its parent, but in charge of its nurse. Sleep is as necessary for the restoration of strength as nourishment itself, and *the deprivation of it will soon diminish and deteriorate the quantity and quality of the mother's milk*, and sometimes—the cause being little suspected—will drive it away all together. I am fully aware of the repugnance of some mothers to this measure, and that even in the wealthiest families, where the best services can be obtained, and every convenience exists, they are unwilling to entrust the child, that they desire should be constantly under their own eye, to a servant's care. Sooner, or later, however, this change must take place; the most devoted mother must submit to it; and the peril is not greater at this time of the child's life than at any other. The grand point is to select a proper person for this duty, and then to exercise over her an active, wise, and firm *surveillance*. This is seldom sufficiently regarded. A sensible and experienced nursemaid is the exception, not the rule. The short-sighted economy of a few pounds per annum is preferred before the services of one whose watchfulness and care over the physical and moral education of the child would repay a hundredfold any sacrifice it might be necessary to make to obtain them.

The course, then, is to be followed until the ap-

✓ pearance of the first teeth (about the sixth or seventh month), and if the parent be a healthy woman, the quantity of milk supplied to the breast will generally be found sufficient to afford adequate nourishment to the child, without additional assistance from artificial food. The latter is on no account to be given (up to this period) unless, from deficiency of milk or some other cause, it be positively required. If, however, after the expiration of some months, this deficiency should exist, it must be made up by the mixture of cow's milk and water, and of this alone, if it agree with the child. It must be given, too, through the sucking-bottle until the teeth appear; after which time an alteration in the kind of food, and the mode of exhibiting it similar to that proposed below, may be adopted.

The Plan to be followed after the first Teeth have appeared.—When the mother, at this period, has still an abundant supply of nourishing milk, and the child is healthy and even flourishing upon it, I would not recommend any immediate change. The parent may, with benefit to her own health, as well as with advantage to the child, pursue the same plan as heretofore for a few weeks longer. In general, however, the mother will require some little aid at this time; and artificial food may now be given twice in the course of the day, without risk or injury to the child. Good fresh cow's milk, with the addition of water, or not, as it is found to best agree; Hard's farinaceous food; ✓ tops and bottoms; or, if these disagree with the stomach, weak beef-tea, veal or mutton-broth, clear and free from fat, and mixed with an equal quantity of farinaceous food, and a few grains of salt—any one of these which the parent finds to agree best, may be given with benefit.

As this is the first time that *artificial food* has been particularly referred to, it is right to observe, as a general remark applicable to its use at all times, that the greatest care must ever be taken in the selection of it, in its preparation, in the quantity given, and in the mode of giving it. In *the choice* of the food the mother must be guided by circumstances; she must find out that which suits best; and so long as the child flourishes, she should from no trivial cause change it. The different kinds just pointed out may be tried in the order given, till one is found to agree. The *mode of making* these preparations is detailed at length at p. 259.* This has been done because the defective manner in which artificial food is prepared is not unfrequently the sole cause of its failure. It is only necessary further to observe upon this point, that the vessel in which it is made, as well as that out of which it is given to the child, must be perfectly sweet and clean. *The quantity given* must be small, lest the stomach be overloaded, which seldom fails, after a little while, to impair its tone, and gives rise to the distressing dyspeptic symptoms before alluded to. The child must be *fed slowly*; and, minding this precaution, the sucking-bottle may now be discontinued, and the spoon used in its stead. But more full instructions upon all the foregoing points will be found in the ninth section of this chapter.

In about six weeks or two months after the artificial food has been in part commenced, it may be given, if necessary, more frequently—three or four times in twenty-four hours, and the breast of course less frequently. This will prepare the infant for

* See also *Maternal Management of Children*, pp. 64-70.

weaning, which, under these circumstances, when the time arrives, will be easily accomplished.

Such is the plan of nursing to be followed by the mother until the infant is weaned entirely from the breast. The period when this ought to take place, as also the manner of accomplishing it, are detailed in the sixth section of this chapter.

Sect. 4.—Rules for the Health of the Nursing Mother.

4 A careful attention on the part of the mother to her health is especially called for during nursing. Nourishing and digestible milk can be procured only from a healthy parent; and it is against common sense to expect that if a mother impairs her system by improper diet, want of sleep, neglect of exercise, and impure air, she can nevertheless provide as wholesome and uncontaminated a fluid for her child as if she were diligently attentive to these points. *Every ailment of the nurse is liable to affect the suckling infant.*

If good health has always been enjoyed, there should be no alteration in the *diet*: it should be the same as before confinement. If the natural appetite increase, the extra demand must be met by an increase in that kind of food which is wholesome, nourishing, and simple in quality, and not in that which is of a rich and pampering description. Stimuli are to be avoided; and it will be well both for parent and child to adopt a barley-milk beverage. It is a very prevalent and most mischievous error to suppose that because a woman is nursing she ought therefore to live fully, and to add an allowance of wine, porter, or other fermented liquors to her usual diet. The only result of this plan is, to cause an unnatural degree of fullness

in the system, which places the nurse on the brink of disease, and which of itself frequently puts a stop to, instead of increasing, the secretion of milk. This practice of taking fermented liquor generally commences in the lying-in room. The young mother is there told that it is essential to the production of a plentiful supply of good breast-milk. And, from a sense of duty, this course is adopted, however disagreeable, as it really is to many who submit to it. The advice, however well-meant, is not good advice, but frequently most mischievous. Malt liquor or wine is only useful to the woman who, possessing a healthy constitution, and a system free from disease, is rather delicate than robust; but who, nevertheless, with advantage to herself or without detriment to the child, may suckle. Such an individual may make a trial of wine, or of a pint of good sound ale or porter in the four-and-twenty hours; and if it is found to have a favourable effect upon her health, and not produce discomfort or disturbance to the system, it should be persevered in. But here, as in the former case, more good will result from the assiduous employment day by day of general measures, than from any stimuli. *The bowels* must be duly regulated; and if at any time an aperient is required, the selection is not unimportant. If it be desirable to act at the same time upon the infant's bowels, a saline purgative should be taken: this, through its effect on the milk, will act on the child; if otherwise, a vegetable aperient should be chosen, as castor-oil, confection of senna, or five grains of the compound extract of colocynth, with two grains of the extract of henbane, to prevent its griping.

I need scarcely remind the nursing parent of the importance of attending to *the state of the skin*, and

of the invigorating effects of *the tepid or salt-water shower-bath*, taken every morning upon rising. If the latter cannot be borne, sponging the body with tepid or cold salt-water must be substituted. *Exercise and fresh air* are essential to the production of good and nourishing breast-milk, as they also contribute to increase the quantity secreted. No one can have seen much of practice in this metropolis, and not have been fully convinced of this fact. Wet or fine, if the mother be in good health, she should take the daily walk. The injurious influence of an indulgence in *late hours* night or morning, and the luxuries and dissipation of high life, will soon become manifest. Such habits not only lessen the mother's attention to her offspring, but really diminish her power of affording it nourishment; so that she is often a worse mother in these respects than the inhabitant of the meanest hovel.

A tranquil temper, and a happy cheerful disposition, tend greatly to promote the production of healthy milk. Indeed there is no secretion of the human body that exhibits so quickly the injurious influence of the depressing emotions as that of the breast. And, although we are not able at all times to detect by any agent we possess the changes which take place in the physical properties of this fluid, so delicate an apparatus for testing its qualities is the digestive system of the infant, that it will sometimes be instantly manifest that such changes have occurred, by the serious symptoms which arise. *Fear* has a powerful influence on this secretion—first changing its properties, and then frequently stopping the secretion altogether. *A fretful temper* will lessen the quantity of milk, make it thin and serous, and cause it to disturb the child's bowels,

producing fever and griping. *Fits of anger* produce a very irritating milk, followed by griping in the infant, with green stools. *Grief* or *anxiety of mind* often so diminishes the secretion as to render other aid necessary for the sustenance of the child. A knowledge of these facts ought to serve as a salutary warning to a mother not to indulge in, but carefully to guard against, either the exciting or depressing passions.

The quantity and quality of the breast-milk may be affected by other causes. Sometimes *the monthly periods* return while the mother still continues a nurse. This occurrence much impairs the milk in its probable duration, and more or less in its properties at the period itself. The infant sometimes becomes unusually fretful, brings up the milk, and has frequent watery motions, more or less of a spinach-green colour. If this takes place early after delivery, it will in most cases so alter the qualities of the milk as seriously to affect the health of the child, and oblige the mother to transfer it to a wet-nurse. But if it does not occur until the sixth or seventh month, the foregoing result need not be feared; and it will only be necessary to withhold the breast from the child as much as possible during the continuance of the discharge, substituting artificial food.

The taste and qualities of the milk are easily affected by *an improper diet*. If the mode of living be full and luxurious, the milk may become too rich, having too large a quantity of cream, but without its being otherwise altered in its character. The remedy is simple enough: purgative medicine, once or twice, plenty of active exercise, and a more spare diet in future. On the other hand, women who labour hard, provided they are well nourished, have abundance of

milk ; but if their food be scanty in quantity and poor in quality, they soon sink under fatigue, and lose their milk. In London, severe attacks of diarrhoea occur in infants at the breast, fairly traceable to *bad porter*. Sometimes the breast-milk has a decidedly saline taste, at other times bitter, so that the child (to the astonishment and vexation of the parent, who does not suspect the cause) will turn away from the breast in disgust. In all these cases it will more or less disorder the child ; and hence the importance of attention to the diet, particularly the avoidance of salads, pickles, sour fruit, cucumbers, melons, acids, and the like.

Medicines will often affect the milk, and in a very striking manner. This has already been alluded to when speaking of aperients, and, beyond this, does not concern us here, although a very important use is made of the fact in attempting the cure of serious disease which sometimes occurs both in mother and child.

If *pregnancy* take place with the nursing mother, it will so affect the milk as to render suckling injurious to the child. If it occur in the early months, a wet-nurse ought to be obtained.

A *deficiency of milk* will, in some mothers, exist from the earliest weeks after delivery. If this is not quickly remedied by the means already pointed out, a wet-nurse must be obtained. It will be of no avail partially to feed the infant at this period and under such circumstances ; for it will eventually be lost, and, while it does live, will only be a constant object of anxiety and grief to its parent. The constitution of the mother, in this case, is frequently unhealthy ; and the condition into which the child is brought arises from the unwholesomeness of her milk. Women who marry comparatively late in life, and bear children,

generally have a deficiency of milk after the third or fourth month ; artificial feeding must, in part, be here resorted to.

Many mothers give themselves unnecessary fatigue in suckling, from the awkward manner in which they hold the child. Until it is old enough to sit while being suckled, or the mother is accustomed to raise the child cleverly in her arms to the breast, it is best for her to lie down when the infant has occasion to suck. At all times, if in bed, the child should take the breast as it lies, and not incommode the mother by obliging her to sit up in bed. When up and nursing, the mother should sit upright, and raise the child to her breast, and not bend forward to suckle the infant in her lap. This latter position greatly tires and fatigues the mother, and causes severe pain in her back, without in any degree relieving the child.

Again, the parent should avoid giving one breast more frequently than the other ; the infant should be applied to each in its turn. If this is not done, and one breast is sucked more than the other, it becomes much larger than its fellow, and the secretion of milk is not equally promoted in each breast. There is danger, also, if suckled upon one breast only, of the child contracting the habit of squinting, from having its eyes constantly directed to one side. It may also become somewhat crooked, growing unequally, one side of the body not being so muscular as the other.

Sect. 5.—The injurious Effects, to the Mother and Infant, of undue and protracted Suckling.

As already observed, the period of suckling is, ordinarily, one of the most healthy of a woman's life. But there are exceptions to this as a general rule ; and

nursing, instead of being accompanied by health, may be the cause of its being materially, and even fatally, impaired. This may arise out of one of two causes—either a parent continuing to suckle too long, or from not being equal to the continued drain on the system. Examples of the first class are met with daily. I refer to poor married women, who nurse their infants eighteen months, two years, or even longer than this, from the belief that by so doing they will prevent pregnancy. The consequences are a state of exhaustion and disorder of the general health, which often leads to most alarming maladies. The second class is most frequently met with in delicate women, whose health suffers from having two or three children in quick succession; and they have all the symptoms arising from undue suckling, when perhaps the infant at the breast is not more than two or three months old.

Every mother should have a knowledge of these facts, and should also be able to recognise the first symptoms of impaired health from suckling, that medical advice may be obtained before the system is seriously affected.

✓ *The earliest symptom* is a dragging sensation in the back when the child is in the act of sucking, and an exhausted feeling of sinking and emptiness at the pit of the stomach afterwards. This is soon followed by loss of appetite, costive bowels, and pain on the left side. Then the head will be more or less affected, sometimes with much throbbing, singing in the ears, and always some degree of giddiness, with great depression of spirits. Soon the chest becomes affected, and the breathing is short, accompanied by a dry cough, and palpitation of the heart upon the slightest exertion. As the disease advances, the countenance

becomes very pale, and the flesh wastes; and profuse night perspirations, great debility, swelling of the ankles, and nervousness ensue. I have known the retina so weakened as to produce blindness for a time. It is unnecessary, however, to enter into a more full detail of symptoms.

All that it will be useful to say in reference to *treatment* is this: that although much may be done in the first instance by medicine, change of air, and cold and sea bathing, yet the quickest and most effectual remedy is to wean the child, and thus remove the cause.

There is another and equally powerful reason why the child should be weaned, or rather have a young and healthy wet-nurse, if practicable. *The effects upon the infant*, suckled under these circumstances, will be most serious. Born in perfect health, and having continued so up to this period, it will now begin to fall off in its appearance; for the mother's milk, both in respect of quantity and quality, will no longer afford due nourishment. Its countenance will become pale, its look sickly and aged, the flesh soft and flabby, the limbs emaciated, the stomach large, and the evacuations fetid and unnatural. And in a very few weeks the blooming healthy child will be changed into the pale, sickly, peevish, wasted creature whose life appears hardly desirable. The only measure that can save its life, and restore its health, in these circumstances, is that which, had it been resorted to in time, would have prevented the child falling into this state—a healthy wet-nurse.

If the effects upon the infant should not be so aggravated as those just described, and it subsequently live and thrive, there will be a tendency in such a con-

stitution to strumous disease in one or other of its forms, which will in all probability manifest itself at some future period, undoubtedly produced by the delicate state of the parent's health at the time of its suckling. A wet-nurse early resorted to will prevent this.

It will be naturally asked, for how long a period a mother ought to perform the office of a nurse. No specific time can be mentioned; and the only way in which the question can be met is this:—No woman, with advantage to her own health, can suckle her infant beyond twelve months; and at various periods, between the third and twelfth month, many women will be obliged partially or entirely to resign office.

Sect. 6.—Weaning.

The time when weaning is to take place must ever depend upon a variety of circumstances, which will regulate this matter, independently of any general rule that can be laid down. The mother's health may, in one case, oblige her to resort to weaning before the sixth month, and, in another instance—the delicacy of the infant's health—to delay it beyond the twelfth. Nevertheless, as a general rule, both child and parent being in good health, weaning ought never to take place earlier than the ninth (the most usual date), and never be delayed beyond the twelfth month.

I should say further, that if child and parent are both in vigorous health, if the infant has cut several of its teeth, and been already accustomed to be partially fed, weaning ought to be gradually accomplished at the ninth month. On the other hand, if the child is feeble in constitution, the teeth late in appearing, and the

mother is healthy and has a sufficient supply of good milk, especially if it be the winter season, it will be far better to prolong the nursing for a few months. In such a case, the fact of the non-appearance of the teeth indicates an unfitness of the system for any other than the natural food from the maternal breast. It should never be effected while the child is suffering under the irritation of teething ; it will derange the bowels, and perhaps induce convulsions. And again, if the infant is born of a consumptive parent, and a healthy and vigorous wet-nurse has been provided, weaning should most certainly be deferred beyond the usual time, carefully watching, however, that neither nurse nor child suffer from its continuance.

The mode in which it is to be effected must be gradual. From the sixth month most children are fed twice or oftener in the four-and-twenty hours ; the infant is, in fact, therefore, from this time, in the progress of weaning ; that is to say, its natural diet is partly changed for an artificial one, so that when the time for *complete weaning* arrives, it will be easily accomplished, without suffering to the mother or much denial to the child. It is, however, of the greatest importance to regulate the quantity and quality of the food at this time. If too much food is given (and this is the great danger), the stomach will be overloaded, the digestive powers impaired, and, if the child is not carried off suddenly by convulsions, its bowels will become obstinately disordered ; it will fall away from not being nourished, and perhaps eventually become a sacrifice to the over-anxious desire of the parent and its friends to promote its welfare. The kind of food proper for this period, and the mode of administering it, are detailed in the section on Artificial Feeding.

Much exercise in the open air (whenever there is no dampness of atmosphere) is highly necessary at this time ; it tends to invigorate the system and to strengthen the digestive organs, and thus enables the latter to bear without injury the alteration in diet.

Sect. 7.—Drying up the Milk.

It may be necessary to dry up or ‘backen the milk,’ as it is popularly called, *directly after delivery*, from the delicate health of the mother ; from local defect—the nipple, for instance, being too small or obliterated by the pressure of tight stays ; and from the death of the infant, or some equally urgent cause.

Now it is a very frequent practice to apply cold evaporating lotions to the breast for this purpose. It is true they may produce a rapid dispersion of the milk ; but they ought never to be resorted to, as they frequently give rise to symptoms of an alarming and dangerous character. The best and safest local application consists in the following liniment :—*Compound soap liniment, three ounces ; laudanum, three drachms ; camphor liniment, one drachm.* Or, if this is found too irritating, *compound soap liniment* alone. Either of these liniments must be applied warm, and constantly, by means of a layer or two of linen or flannel, covered by a piece of oiled silk, and the breast gently rubbed for five or ten minutes, every four or five hours, with warm almond-oil.

Sometimes the skin is so thin and sensitive that even the compound soap liniment proves too stimulating, and covers the breast with an irritable eruption. In these cases bread-and water-poultices must be sub-

stituted, but the warm almond-oil must also be used as directed in the former instances.

While the breasts remain only moderately hard, easy and but little distended with milk, they must not be emptied ; for this would encourage further secretion, and they would soon fill again. If, however, they become very hard and painful, and give much uneasiness from their distension, they must be partially emptied, *so as just to relieve the over-distension*—nothing more ; and this may be repeated as often as is absolutely necessary. A gentle saline aperient should be taken every morning, and, if necessary, at night, the object being to keep the bowels slightly relaxed. The diet must be very scanty, and only solid nourishment taken. If, however, the thirst is distressing, it must be allayed by frequently washing out the mouth with toast-and-water ; and an orange or two, or a few ripe grapes, may be taken in the course of the day. Following up this plan, the distress arising from the extreme distention of the breasts, if present, will be removed, although several days will transpire before the milk is thoroughly dispersed, or the remedies can be discontinued, and a sensation, described by women as of ‘ a draught of milk ’ in the breasts, will sometimes be felt two or three times a day for weeks afterwards.

In reference to drying up the milk *at the time of weaning*, from the circumstance of the child being partially fed for some time before it is completely weaned, the mother will experience little trouble in dispersing it. She must, however, not neglect to take opening medicine, not only to assist the foregoing object, but also to prevent that depression of spirits, lassitude, loss of appetite, and general derangement of health which

so frequently follow weaning when these medicines are omitted. If the breast should continue loaded, or indeed painfully distended, not only must the aperient be used to keep the bowels gently relaxed, but the diet must be diminished in quantity, and only solid nourishment taken. The breasts, too, if painfully distended, must be occasionally drawn, but only just sufficiently to relieve the distension ; they must also be rubbed for five or ten minutes, every four or five hours, with the following liniment previously warmed :—*Compound soap liniment, one ounce and a half ; laudanum, three drachms.*

Sect. 8.—Wet-nurse Suckling.

Choice of a Wet-nurse.—Ill health and many other circumstances may prevent a parent from suckling her child, and render a wet-nurse necessary. Now, although she will do wisely to leave the choice of one to her medical attendant, still, as some difficulty may attend this, and as the mother herself ought most certainly to be acquainted with the principal points to which his attention is directed in the selection of a good nurse, so it will be well to point out in what they consist.

The first thing, then, to which a medical man looks, is the general health of the woman ; next, the condition of her breast, the quality of her milk ; its age, and her own ; whether she is ever unwell while nursing ; and, last of all, the condition and health of the child.

Is the Woman in good Health ?—Her general appearance ought to betoken a robust constitution, free from all suspicion of a strumous character or *any hereditary taint* of syphilis, consumption, cancer, and the

like ; her tongue should be clean and firm, her digestion good ; her teeth and gums sound and perfect, and her skin *free from eruptions* ; her breath sweet. Inquire as to the condition of her health during her pregnancy. Avoid a wet-nurse who has any tendency to miscarriages. If possible, see her husband also, and be sure that he is and has been a steady, well-conducted man.

What is the Condition of her Breast ?—A good breast should be firm and well-formed ; its size not dependent upon a large quantity of fat, which will generally take away from its firmness, giving it a flabby appearance, but upon its glandular structure, *which conveys to the touch a knotted, irregular, and hard feel* ; and the nipple must be perfect, of moderate size, but well developed.

What is the Quality of the Milk ?—It should be thin, and of a bluish-white colour ; sweet to the taste ; and when allowed to stand, should throw up a considerable quantity of cream. Dropped in water, it should form a light cloudy appearance, and not sink at once to the bottom in thick drops.

What is its Age ?—If the lying-in month of the patient has scarcely expired, the wet-nurse to be hired ought certainly not to have reached her second month. At this time, the nearer the birth of the child, and the delivery of its foster-parent, the better. The reason for which is, that during the first few weeks the milk is thinner and more watery than it afterwards becomes. If, consequently, a newly-born infant be provided with a nurse who has been delivered three or four months, the natural relation between its stomach and the quality of the milk is destroyed, and the infant suffers from the oppression of food too heavy for its digestive power. In fact, it has been observed to be very inju-

rious. On the other hand, if you are seeking a wet-nurse for an infant of four or five months old, it would be very prejudicial to transfer the child to a woman recently delivered; the milk would be too watery for its support, and its health in consequence would give way.

The Nurse herself should not be too old.—A vigorous young woman from twenty-one to thirty admits of no question. And the woman who has had one or two children before is always to be preferred, as she will be likely to have more milk, and may also be supposed to have acquired some experience in the management of infants.

Inquire whether she is ever unwell while nursing?—If so, reject her at once. You will have no difficulty in ascertaining this point; for this class of persons have an idea that their milk is *renewed*, as they term it, by this circumstance, monthly; and, therefore, that it is a recommendation, rendering their milk fitter for younger children than it would otherwise have been. It produces, however, quite a contrary effect; it much impairs the milk, which will be found to disagree with the newly-born child, rendering it fretful from the first. After a time it is vomited up, and produces frequent watery dark-green motions.

Last of all, what is the Condition of the Child?—We would particularly advise that a medical man should examine the proposed wet-nurse's baby; for the *appearance of health* does not suffice. Particularly reject the mother of any child with skin eruptions, or a tendency to cold in the head (called snuffles). It ought to have a sprightly appearance—to bear the marks of being well-nourished, its flesh should be firm and clear. It should be examined in this respect

particularly about the head, neck, and buttocks—also its mouth and gums.

If a medical man finds that both mother and child answer to the above description, he has no hesitation in recommending the former as likely to prove a good wet-nurse.

The principal points which the parent must investigate for herself (independent of the medical attendant's inquiries) have reference to *the moral qualifications* of the applicant; and if there is found to be any defect here, however healthy or otherwise desirable, her services ought to be declined. Temperance, cleanliness, a character for good conduct, fondness for children, and aptness in their management, are among the most important requisites. An amiable disposition and cheerful temper are also very desirable; for of course the remarks made in the preceding part of this chapter, on the injurious influence of mental disturbance on the breast-milk of the parent, apply with equal force to that of the wet-nurse.

It is unnecessary to allude to other qualities which a woman who is sought as a wet-nurse should possess; they will naturally suggest themselves to any thoughtful mind.

Diet of a Wet-nurse.—The diet should not differ much from that to which the individual has been accustomed; and any change which it may be necessary to make in it should be gradual. It is erroneous to suppose that women, when nursing, require to be much more highly fed than at other times; a good nurse does not need this; and a bad one will not be the better for it. The quantity which many nurses eat and drink, and the indolent life which they too often are allowed to lead, have the effect of deranging

their digestive organs, and frequently induce a state of febrile excitement, which always diminishes, and even sometimes altogether disperses, the milk. It will be always necessary for the mother to be watchful lest the wet-nurse overload her stomach with a mass of indigestible food and drink. She should have a wholesome mixed animal and vegetable diet, and a moderate quantity of malt liquor, *provided* it be found necessary.

As I have before said, a very prevailing notion exists that porter tends to produce a great flow of milk. In consequence of this prejudice, the wet-nurse is often allowed as much as she likes ; a large quantity is in this way taken, and, after a short time, so much febrile action excited in the system, that, instead of increasing the flow of milk, it diminishes it greatly. Sometimes, without diminishing the quantity, it imperceptibly, but seriously, deteriorates its quality.

As a *general rule*, porter, wine, or any stimulant, is quite as unnecessary for the wet-nurse as for the nursing mother, if she be in sound and vigorous health. There may be cases benefited by the moderate use of malt liquor, but these are the exceptions. If taken, three half-pint tumblers are as much as any nurse ought to be allowed ; and if she require more, either it will be injurious, or she is unfit for her office. I very much suspect that the process of teething in some cases is rendered painful and difficult by the stimulant taken by the nurse ; the child, in fact, pays in suffering for the pampering of the nurse.

General Directions.—The nurse should take exercise daily in the open air ; nothing tends more directly to maintain a good supply of healthy milk, and the best wet-nurse would soon lose it if constantly kept

within doors. Sponging the whole body with cold water with bay-salt in it, every morning, should be insisted upon, if possible ; it preserves cleanliness, and greatly invigorates the system. United with this, the nurse should rise early, and also be regularly employed during the day in some little portion of duty in the family, an attendance on the wants of the child not being alone sufficient.

For some time after the wet-nurse enters upon her duties, the mother should closely superintend her management of the child ; more or less this will be advisable throughout the whole period of the wet-nurse's suckling ; but it will be particularly called for until the nurse has deservedly secured the mother's confidence and respect. If the nurse have been judiciously chosen, there is no doubt she will endeavour to act conscientiously and rightly, but it is too much to expect, remembering the station of life from which she has been taken, that she will possess the necessary knowledge. Indeed, if she has had children previously, you will most probably have to combat with many existing prejudices, which will render such vigilance and superintending care the more necessary. Give from day to day the instructions required, and go frequently and unexpectedly into the nursery, and see that your directions are scrupulously regarded, and with that cheerfulness and tenderness which alone can and ought to satisfy a mother.

As the months advance, it may happen that the nurse's milk becomes insufficient for the demands of the child ; and, unless she be a woman of good principles, there will be a danger of her hiding this circumstance from the parent, lest she should lose her situation, and she will secretly supply the deficiency

with some artificial food, made in secret, and therefore not properly made, unfit for the child, and quickly causing suffering and disturbance to its system. On the other hand, a very healthy and very ignorant woman, with a great abundance of milk, is now and then met with, whose great aim will be to make the child as fat as possible; and she will not only urge the child to take breast-milk all day long, but give artificial food too, and sometimes even a portion of her own beverage, malt liquor. As a consequence, either the child's stomach rebels against this extraordinary system of repletion, and constantly vomits up the over supply, having, it may be, repeated attacks of diarrhœa, which after a while seriously affect its health—or the wishes of the nurse are realised, and the child does become excessively fat, and is placed thereby on the brink of disease, from which, if it takes place, the chances of recovery are greatly diminished. Again, the monthly periods in these nurses will sometimes after a while reappear, deteriorating the quality and diminishing the quantity of the milk—a result of which they are generally aware, and therefore they often attempt to conceal the fact. The course to be taken will depend upon the date when this function recurs: if it be early in the nursing, the child being yet very young, it will be sure to suffer, and the nurse must be changed; but if it does not take place until the seventh or eighth month is passed, it will scarcely affect the child, and all that will be required will be to keep it as much as possible from nursing while the woman continues unwell, substituting for the breast-milk artificial food.

A wet-nurse should never be allowed to have medicine of any kind at her command to administer to the

child. An unprincipled woman will sometimes give laudanum, in one or other of its preparations, to quiet a restless child, and secure for herself a good night's repose. If the nurse's rest should be disturbed from this cause, the exhaustion which is naturally felt the following day must not be met by the frequently adopted remedy of an extra supply of porter—but *by rest*; she must be allowed to lie down for an hour or so, the nursemaid taking charge of the child in the interval. Sleep will restore the strength, and thus increase the amount and improve the quality of the breast-milk, while the stimulant would injure both.

When there are children already in a family, there is danger in many ways of the wet-nurse deranging the order of the nursery. The mother should at the first assign her place and duties, and see that she keeps the one and performs the other. If there is an upper nurse, the wet-nurse in a certain sense must be her assistant, and take the second place, as it is termed. She will always do her duty to the infant, for her affections will quickly become engaged; but there will be an unwillingness to conform to nursery regulations, unless enjoined from the first; and this unwillingness may cause great discomfort to, and have a bad influence upon, the children. If the tone and manner in which injunctions are given imply both firmness and kindness, the willing co-operation of the wet nurse may be secured, who must not be looked on merely as a living dairy, possessing neither love or esteem nor desire of approbation.

Sect. 9.—Artificial Feeding.

Extreme delicacy of constitution, diseased condition of the frame, defective secretion of milk, and other causes, may forbid the mother suckling her child ; and unless she can perform this office with safety to herself and benefit to her infant, she ought not to attempt it. In this case a young and healthy wet-nurse is the best substitute ; but even this resource is not always attainable. Under these circumstances the child must be brought up on an artificial diet—‘by hand,’ as it is popularly called. To accomplish this, however, with success, requires the most careful attention on the part of the parent. It is at all times attended with risk, particularly in large cities. It is of great importance, therefore, that the parent superintend the dietetic management of the child herself—at all events for the early months—and that the rules laid down for her guidance be strictly followed out.

The Food suitable until the first Teeth appear.—The kind of artificial nourishment most suited to the infant will be that which is most like the breast-milk, viz. the milk of animals—the ass, the cow, the ewe, and goat. The milk of the cow is in most familiar use, and the ass next ; but all are employed more or less for the above purpose, in various parts of the world. The milk of all animals is composed of the same ingredients ; but their proportions vary considerably—a fact of much practical importance in guiding our selection and preparation of it as food for children, when good human milk cannot be obtained. In some respects, however, there is a great similarity between the milk of the woman and that of the ass ; and in the

early months, accordingly, we find it the most suitable artificial food that can be chosen.

When *ass's* milk is employed, for the first ten days it should be mixed with an equal part of boiling water; no sugar is necessary, as it exists in abundance. When the ten days have expired, two-thirds milk and one-third water will be the proportions; and a few weeks later, the milk should be pure. It must be given at the same temperature as the breast-milk, viz. from 96° to 98°: this is best effected by always adding the water in a boiling state, and, when the milk is given alone, by placing the vessel containing it in boiling water. In hot weather, care must be taken that the milk is not affected by it; and, when practicable, it should be employed warm from the animal. It should never be mixed with water till wanted, and no more made than will be taken by the child; for it must be prepared fresh at every meal. If convenience will permit, an ass should be kept for the child, the foal muzzled, and the forage of the mother carefully attended to, or its milk will disagree with the infant. If this plan cannot be adopted, then, if possible, the animal should be brought to the door of the house night and morning, and there milked.

Cow's milk in the early weeks is objectionable, from the large proportion of casein or cheese it contains. If, however, it is used, for the first ten days one-third of cow's milk and two-thirds of boiling water are the proportions, sweetening the mixture with a small quantity of loaf-sugar, as it is rather deficient in this milk. Then, for the next four or five months, equal parts of milk and water; and at the expiration of this time, which brings us to about the sixth month, pure milk. The same care in preparing this food must be

observed as with the ass's milk. In large cities it is a difficult thing to obtain pure and wholesome cow's milk. Much of it is supplied from cows which, fed in stalls, never breathe the pure air, and becoming diseased (scrofulous matter is found deposited in their lungs), they produce unhealthy milk; or if it comes from the outskirts of the city, however pure and wholesome when drawn from the udder, it is afterwards so diluted with water, and adulterated with starch, flower, chalk, and other substances, as to render it almost as innutritious and unwholesome as the diseased milk itself. Both are most unfit for the delicate and susceptible stomach of the infant. There is no doubt that this circumstance is the fruitful source of disordered health to children artificially fed in large cities, and, when united with a deficiency of pure air, occasions the great mortality which takes place in the early months.

It is hardly necessary to allude again to the milk of the *goat* and *ewe*; they are both much employed in other countries, but seldom in this. In quality they are richer than any other, and require in the early weeks of the child's life considerable dilution, with a small addition of sugar.

Milk, then, much diluted in the early weeks, and less and less as they advance, accommodating the strength of the aliment to the increasing digestive powers of the infant, forms the best artificial diet that can be given until two or three teeth are cut. Children nourished exclusively upon this simple food will be found to enjoy more perfect health, and thrive far better, than upon any other diet that can be given. Unfortunately this is not the popular belief; and in the earliest days of the child mothers are too much in

the habit of giving thick gruel, panada, biscuit food, and such matters, thinking that a diet of a lighter and thinner kind will not nourish. This is a great mistake, for these preparations are much too solid ; they overload the stomach, and cause indigestion, flatulence, and griping. These create a necessity for purgative medicines and carminatives, which again weaken digestion, and, by unnatural irritation, perpetuate the evils which rendered them necessary. Thus many infants are kept in a continual round of repletion, indigestion, and purging, with the administration of cordials and narcotics, who, if their aliment were in quantity and quality suited to their digestive powers, would need no aid from physic or physicians.

It will occasionally happen, however, that *every kind of milk disagrees* with the stomach of the child. If such a case occur, arrow-root, sago, semolina, ground rice, and barley, or grit gruel—either of these, well boiled in water, with the addition of a tea-spoonful of cream to four ounces of one or other of these preparations, and a little sugar and salt—may be given. In such children, if the flesh be soft and flabby, after a few months the cream may be discontinued, and equal parts of one of the foregoing preparations, and some animal broth, as chicken or mutton-broth, or beef-tea substituted for the cream. All this, however, must be done with considerable care and caution. In the first weeks the food must be very thin, the consistence of cream, and always passed through a fine sieve before it is poured into the sucking-bottle ; and afterwards, if animal broths form part of the diet, their effect upon the system must be watched ; for it must always be kept in mind that, before the first teeth are cut, the employment of this diet forms the exception,

and not the rule, to the plan ordinarily to be pursued.

The Mode of administering the Food.—There are two ways—by the spoon, and by the nursing-bottle. The first is objectionable at this period, inasmuch as the power of digestion in infants is very weak. In the natural mode of nourishment, by repeated acts of sucking, provision is made for the *slow* introduction of food into the stomach of the child. In this act a great quantity of saliva is secreted, which, mixing with the milk, passes down into the stomach, and there greatly aids digestion. This process of nature, then, is to be emulated as far as possible; and for this purpose the food should be imbibed by suction from a nursing-bottle: it is thus obtained slowly, and the suction employed secures the mixture of a due quantity of saliva. The number of nursing-bottles from which to choose is very large indeed, and each one is said to have some special advantage possessed by no other. I have carefully inspected a large number of these feeding-bottles, thanks to the kindness of Messrs. Maw, who placed their enormous stock at my disposal for this purpose. The best pattern is the so-called “Alexandra Feeding-bottle,” with screw *metal* cap. It is either a *flat* or an *upright* bottle, that is, it will stand in either position, and while it can be emptied to the last drop, owing to its peculiar formation, there is no overflowing in whatever position it is placed, even when full.

Perhaps I ought to explain why I think this is such an excellent bottle. It is because there is no porous material of any kind about it—no cork washer. Now, however little cork there is about a feeding-bottle, after a time it is sure to become saturated with

the milk, and it is very difficult, not to say impossible, to wash it out; it becomes sour, therefore, and is often the unsuspected cause of the food also turning sour and disagreeing with the child.

Whatever kind of bottle, however, you may have, or may decide to get, it will be necessary to thoroughly cleanse it after each time of using it; let it be scalded with hot water—not only the bottle, but the glass and india-rubber tubes, and the teat also. This cleanliness is of the greatest advantage; nothing in fact so tends to success in artificial feeding as attention to this point.

Of the Quantity and Frequency of giving Food.—These must be regulated by the age of the child and its digestive power. In the early weeks, as in ordinary nursing, the quantity must be small, say six or eight table-spoonfuls, and the supply more frequent than afterwards, as the stomach can bear only a small amount of nourishment at a time. As the child grows older, the quantity must be gradually increased; and a little experience will soon enable a careful and observing mother to determine the amount required. The frequency (after the first month), as a general rule, should be fixed at about every four hours; this will allow a sufficient interval between each meal to insure the digestion of the previous quantity. If this rule is not observed, the process of digestion will be interrupted, and the food, passing along undigested and fermenting, will derange the bowels without nourishing the child. The great error in rearing the young is over-feeding. It may, however, be easily avoided by the parent pursuing a systematic plan with regard to the hours of feeding, and then only yielding to the indications of appetite, and administering the food slowly,

in small quantities at a time. This is the only way effectually to prevent indigestion, bowel complaints, the irritable condition of the nervous system, so common in infancy, and to secure to the child healthy nutrition and consequent strength of constitution. If it be found requisite to give aperients and astringents, antacids and carminatives, frequently, there is something faulty in the management of the diet, however perfect it may seem.

The Posture of the Child when fed.—It must not receive its meals lying. The head should be raised on the nurse's arm, the most natural position, and one in which there will be no danger of the food going the wrong way, as it is called. After each meal, the child should be put into its cot, or repose on its mother's knee, for half an hour or so. The practice of *dandling* and *jolting* the infant soon after taking nourishment is hurtful. Rest is essential to digestion, as exercise is important at other times for the promotion of health. Nature constantly verifies the truth of this remark. All animals manifest an inclination for repose and quietude after a full repast; and experience has shown that the process of digestion is impeded by strong mental or corporeal exercise or agitation immediately after a meal.

The Food suitable after the first Teeth have appeared.—As soon as the child has got any teeth—and about the sixth or seventh month one or two will make their appearance—the artificial food may be increased in quantity and strength. If the child has hitherto been living upon cow's milk and water, the latter may be discontinued, and pure milk alone given, to be continued for a month or two longer if the child continue to thrive. More solid food, however, will now in

most cases be demanded, such as the mixture of some farinaceous preparation with milk. The following, in the order in which they stand, may be resorted to, and that fixed upon which suits best :—

Hard's Farinaceous Food.—Mix a table-spoonful with a small quantity of cold water, add half a pint of boiling water, constantly stirring, then boil it eight minutes, strain through a sieve, add a small quantity of pure and fresh cow's milk, loaf-sugar, and a few grains of salt. This preparation is recommended in preference to biscuit-powder, and many other articles of diet of this class, from the deservedly high character it has obtained ; and so long as it continues to be carefully prepared by the maker, it will be found a very valuable article of food for infants.

Tops and Bottoms.—Steep in boiling water a couple for ten minutes, add a little pure and fresh cow's milk, strain through a sieve, and mix with it a few grains of salt. Sometimes this food agrees better when prepared as follows :—Have a saucepan on the fire with exactly the quantity of water required ; when fast boiling, throw two of these into it ; let it boil five or six minutes ; it will then be a clear smooth jelly, and when strained nothing will remain in the sieve ; thin it with a little fresh and pure cow's milk, and add a few grains of salt.

Nestlé's Milk-food (Lacteous Farina).—This, too, is a most wholesome food, and for children of seven months and upwards will be found a valuable addition to the nursery-kitchen. It is easily prepared, for it only requires to be mixed with water and then boiled.

Mellin's Extract for preparing Liebig's Food.—It is prepared as follows :—Dissolve a table-spoonful of the extract in four tablespoonfuls of hot water, and

add sufficient warm cow's milk to make half a pint. This is an excellent food, of the value of which I can speak with confidence.

Savory and Moore's Liebig's food is also an exceedingly good preparation. Robb's biscuits can also be tried.

If none of these can be got, then thicken the milk slightly with *baked flour*. Put a small quantity of flour into an oven and bake it. It will probably form into a hard mass, which must be carefully pounded and sifted before being used.

When *one or two of the large grinding teeth* have appeared, beef tea, chicken, mutton, or veal-broth, may be given once in the day. The ordinary method of making these preparations, that of pouring *boiling* water on the meat, is objectionable. It has been proved experimentally that boiling water, allowed to act even for as long as five hours on finely chopped flesh, does not dissolve more than the fifth part of the matters soluble in cold water. During maceration in cold water an interchange takes place between the juices of the meat and the cold water external to it, and lasts until there is nothing more to be got out of the meat; while, on the old method, the surface of the latter becomes hardened by the heat, and the water is prevented from permeating to the interior of each separate portion, the nutritious juices becoming sealed up by the action of the heat, instead of passing out of the meat into the water. The plan to be adopted is as follows:—Take a pound of lean beef, free from fat and separated from the bones, chop it up as mince-meat; pour upon it a pint of cold water, let it stand for two or three hours, and then slowly heat to boiling; and, after boiling briskly for a minute or two, strain

the liquid through a fine sieve or cloth, and add a sufficiency of salt. The same plan may be adopted with mutton, veal, or chicken.

As the child advances in age—that is to say, after a month or two from the time we are now referring to, and as an introduction to the use of a more completely animal diet—a portion, now and then, of a soft boiled egg may be given; and by-and-by a small bread-pudding, made with one egg in it, may form the dinner meal. Nothing is more common than for parents, during this period, to give their children solid *animal food*. This is a great and mischievous error. It has been well said by Sir James Clark, that ‘to feed an infant with animal food before it has teeth proper for masticating it, shows a total disregard to the plain indications of nature in withholding such teeth till the system requires their assistance to masticate solid food; and the method of grating and pounding meat, as a substitute for chewing, may be well suited to the toothless octogenarian, whose stomach is capable of digesting it; but the stomach of a young child is not adapted to the digestion of such food, and will be disordered by it.’ Upon the same subject, Dr. John Clarke observes, in his Commentaries; ‘If the principles already laid down be true, it cannot reasonably be maintained that a child’s mouth without teeth, and that of an adult furnished with the teeth of carnivorous and graminivorous animals, are designed by the Creator for the same sort of food. If the mastication of solid food, whether animal or vegetable, and a due admixture of saliva, be necessary for digestion, then solid food cannot be proper when there is no power of mastication. If it is swallowed in large masses, it cannot be masticated at all and will have but a small chance

of being digested; and in an undigested state it will prove injurious to the stomach and to the other organs concerned in digestion, by forming unnatural compounds. The practice of giving solid food to a toothless child is not less absurd than to expect corn to be ground where there is no apparatus for grinding it. That which would be considered as an evidence of idiotism or insanity in the last instance, is defended and practised in the former. If, on the other hand, to obviate this evil, the solid matter, whether animal or vegetable, be previously broken into small masses, the infant will instantly swallow it, but it will be unmixed with saliva. Yet in every day's observation it will be seen that children are so fed in their most tender age; and it is not wonderful that present evils are by this means produced, and the foundation laid for future disease.'

✓ During the period of infancy to which the foregoing plan of diet refers—viz. from the sixth month to the termination of the second year—it must be constantly kept in mind that the important process of *teething* is going on, and that, as this is commonly connected with more or less of disorder of the system, any error in diet is to be most carefully avoided. For while it is true that, in the strong and healthy infant who has been nursed upon the breast and not tasted artificial food until this period, disorder will be scarcely perceptible, so happy an exemption cannot be anticipated for the child that has been nourished upon artificial food alone from the first hour of its birth. Teething under such circumstances is always attended with more or less of disturbance of the frame; and disease of the most dangerous character sometimes ensues. It is at this age, too, that all infectious and eruptive

fevers are most prevalent, worms often begin to form, and diarrhoea, thrush, rickets, and cutaneous eruptions manifest themselves, and strumous disease is originated or developed. A judicious management of diet will do much to prevent these complaints, and mitigate their violence if they do occur.

If at any time *the artificial food disagrees* with the infant, causing the stomach and bowels to be disordered, the parent must in the first instance seek to correct this by an alteration of the diet, rather than by medicine. Much may be done by changing the nature, and sometimes by simply diminishing the quantity, of the food. *A diarrhoea or looseness of the bowels* may frequently be checked by giving as the diet sago thoroughly boiled in very weak beef-tea, with the addition of a little milk. The same purpose is sometimes to be answered by two-thirds of arrow-root with one-third of milk ; or, for a few days, arrow-root made with water only ; or, if these fail, Hard's Farinaceous Food mixed with boiled milk. *Costiveness of the bowels* may frequently be removed by changing the food to tops and bottoms steeped in boiling water, and a small quantity of milk added. Or Densham's Farinaceous Food (which is a mixture of three parts of the best wheaten flour and one part of the best barley meal) may be used. The barley makes this preparation somewhat laxative. Mix a table-spoonful with a small quantity of cold water, add half a pint of boiling water, constantly stirring ; then boil eight minutes ; strain through a sieve ; add a small quantity of un-boiled pure and fresh cow's milk, a little loaf-sugar, and a few grains of salt. *Flatulence and griping* generally arise from an undue quantity of food, which, not being properly digested, passes on in this state

into the bowels, and disturbs and irritates them. This may be cured by abstinence alone. The same state of things may be caused by the food being over-sweetened—sometimes from its not being prepared fresh at every meal, or even from the nursing-bottle or vessel in which the food is given not having been perfectly clean. In this case, weak chicken-broth or beef-tea freed from fat, and thickened with soft boiled rice or arrowroot, may be given.

It is a grievous mistake for a mother to resort to medicine upon every slight derangement of the digestive system. Calomel, and remedies of a like kind, 'the little powders of the nursery,' ought not to be given on every trivial occasion. By the above powerful drug, given in this way, more mischief has been effected, and positive disease produced, than would be accredited. Purgative medicines, especially, ought at all times to be employed with caution in the case of an infant; for so delicate and susceptible is the structure of its alimentary canal, that disease is but too frequently caused by that which was resorted to in the first instance as a remedy. The bowels should always be kept free and in a healthy condition; but then it must be by the mildest and least irritating means.

CHAPTER X.

*THE GENERAL MANAGEMENT OF THE
INFANT'S HEALTH.***Sect. 1.—Apartments and Servants.**

A LARGE portion of the early years of children being spent in the nursery, and under the immediate care of dependants, the apartments they inhabit, and the persons who have the charge of them, ought to be of no small moment to parents; for the health and future welfare of their children will greatly depend on these two points.

Apartments.—The proper ventilation of the apartments of children has not hitherto received that share of attention which its serious influence upon health deserves. Provision is rarely made for a regular supply of fresh, or removal of vitiated air, beyond what is afforded by windows, doors, and open chimneys. The fact is, that the public generally are not yet alive to the vast evils consequent upon breathing impure air. If, however, any one wants to be convinced, and to see them in their most unmitigated form, it is only necessary to visit the dwellings of the poor in a crowded city; the atmosphere they will have to breathe, and the appearance of the inmates, will amply suffice to convince the most sceptical. There can be no doubt

that the habitual respiration of a deteriorated atmosphere is one of the most powerful causes, even in the child born in perfect health, and of the healthiest parents, of that constitutional affection which precedes the appearance of consumption. Sir James Clark remarks : 'The habitual respiration of the air of ill-ventilated and gloomy alleys in large towns is a powerful means of augmenting the hereditary disposition to scrofula, and even of inducing such a disposition *de novo*. Children reared in the workhouses of this country, and in similar establishments abroad, almost all become scrofulous ; and this more, I believe, from the confined, impure air in which they live, and the want of active exercise, than from defective nourishment.' Without entering more fully into this part of the subject, what has been stated will amply suffice to prove the extreme importance of thorough ventilation in the apartments of the young and, I should hope, to induce the reader to adopt the principle where, at present, it is in any degree neglected. For it is a well-ascertained fact, that where systematic ventilation does not exist, it is almost impossible to keep an apartment shut up for any length of time without a condition of atmosphere being produced that must be injurious. How often, where rooms are ill-ventilated, must a mother, on entering her nursery in the course of a day, but more particularly the bedroom of her children in the early morning, be sensible of the impurity of the atmosphere, while the occupants are altogether unconscious of it ! Comparatively fresh at the commencement of the day or night, the air deteriorates so slowly and equally, that, unless it is contrasted with the external atmosphere, its impure state is not perceived. Now the result of breathing this, day after day, and

night after night, however slightly it may be vitiated, is inevitably deteriorative of health ; and although its injurious influence be not so immediate or serious as in the aggravated case of the poor child, *it is slowly going on and is like in kind* ; and scrofula in one or other of its forms, or delicate health, will manifest itself. The lassitude and weariness of children after a night's repose, when they ought to be refreshed and sprightly, is often attributed to indisposition *when it frequently arises simply from breathing through the night the atmosphere of a close bedroom.*

In addition to the means necessary to secure constant and thorough ventilation, the windows of the nursery should be thrown wide open before the children come into it in the morning, and those of the bedroom after they have left it ; and of course, in summer weather, both may be frequently left open during the day, with great advantage when judiciously managed. No cooking or washing of linen—nothing, in fact, that would pollute the atmosphere—must be permitted in the nursery. Its temperature must be carefully regulated, and never allowed to rise above 65°. Heated rooms make children very susceptible of disease, particularly during the period of teething ; and such as are accustomed to immoderately warmed rooms will always, when taken into the cold external air, be much more liable to suffer than others, and during cold and humid weather will seldom be free from coughs and colds. The best mode of warming is a good coal fire. In the winter months, in the case of young children, there should also be a fire in the bedrooms, so as to secure a temperature of 60°. Many an attack of inflammation of the lungs has arisen from a delicate child being undressed and put to bed, at this period of

the year, in a room where this precaution has been disregarded.

If possible, the nursery should have a southerly or westerly aspect, command a pleasant prospect without, and be light and cheerful within. The light of the sun has a powerful influence upon the growth and healthy development of the body; and if children are immured in cheerless rooms, looking into dark shrubberies, or on the back yards and chimneys of a town, their health must inevitably suffer. The influence of light on the vegetable kingdom is known to every one who has observed the bleached appearance of a plant growing in the dark, or corn growing under the shade of a tree, which is always paler and later in ripening than that growing in an open part of the field. Some ingenious experiments were made by Dr. Edwards, showing the influence of light upon the development of animals, in which it was found that those which naturally change their form, as tadpoles, were prevented doing so by its withdrawal. By analogy we are warranted in inferring that light must materially influence development and health in man; and it is positively found that children deprived of its wholesome and gentle stimulus grow up pale, sickly, and deformed, of which numerous examples may be seen in the dark courts and cellars of all great cities.

Then, again, a dull and confined prospect is a source of gloom to the naturally cheerful and active mind of a child; it should look out upon that which would gladden and refresh it. For the same reason, the walls of its nursery should be surrounded with pleasant and instructive pictures (easily attainable in the present day); all which would tend constantly, although imperceptibly, to produce a beneficial and

happy influence upon health and character. The fire should be guarded by a high and firmly fixed fender ; the lower half of the windows with iron bars—a precaution which has saved many a life. The floor also should be well carpeted, which best prevents those serious effects which sometimes follow severe falls in early childhood. There should be no unnecessary furniture in this apartment, that there may be ample space for the children to exercise and amuse themselves in. As few things as possible should be left within their reach which they are not to touch ; and painted toys never allowed to very young children : they carry them to their mouths (particularly if teething) ; and sucking off the paint, there is great danger of their health suffering from the lead which is thus swallowed.

Nursemaid.—Although the mother is the guardian of the physical and moral health of her children, it is most important for her to remember that the nursemaid must necessarily have a considerable influence over the culture of both. The most watchful parent cannot be every moment in her nursery ; but her nursemaid lives there. Day and night she has the care of, and is the companion of the little ones. She looks after their persons, food, clothing, and apartments ; their amusements, exercise, and rest ; and she must necessarily, more or less, have to do with the formation of their moral character. Not only their present health and well-doing, but their conduct and happiness in future life, will, to a great degree, be influenced by the manner in which the nursemaid's duty is performed. There is therefore every reason for using the utmost care in the selection of the individual to whom such a trust is confided.

A nurse should be of a happy, cheerful disposition ; this has a most beneficial influence on the character and health of children. The youngest child is sensibly affected by the feelings apparent in the faces of those around him. How beautifully is this circumstance illustrated in the following quotation from the diary of a titled and amiable woman of former times ! The work is a fiction ; but the paragraph I quote is so true to nature that I cannot refrain from inserting it. Speaking of her first and infant boy, she writes : 'Yesterday it happened, as I nursed him, that, being vexed by some trifling matters that were not done as I desired, the disturbed expression of my countenance so distressed him that he uttered a complaining cry ; made happy by a smile, and by the more serene aspect that affection called forth, he nestled his little face again in my bosom, and did soon fall asleep. It doth seem a trifling thing to note, but it teaches the necessity of watchfulness.'¹ An active, cheerful, good-humoured nurse, by regular, affectionate attendance, by endeavouring to prevent all unnecessary suffering, and by quickly comprehending the language of signs in her little charge, will *make* a child good-humoured. Yet, on the other hand, the best-humoured woman in the world, if she is stupid, is not fit to have the care of a child ; for it will not be able to make her understand anything less than vociferation. A careless, negligent, and passionate woman will injure not only the temper of the child, but its health too. If possible, avoid placing children under the charge of an individual suffering from any great natural defect—a person who squints, for instance, or who may have lost an

eye, or who is lame or particularly ugly, or even one who has a bad expression of countenance. Any one who stutters or has any kind of impediment in her speech—nay, any one whose voice is particularly harsh and loud, or whose manners are rough and clumsy—is not a fit person to have the charge of children.

Cleanliness is essential in a nurse. Without thorough cleanliness, the health and comfort of children must greatly suffer. Their persons, clothes, bed-clothes, and beds, must ever be kept clean, pure, and sweet; and depend upon it this will never be the case if the nurse who has the charge of them is not in herself in all respects cleanly. Never be satisfied with a nurse merely washing her face and hands upon rising in the morning, and the latter during the day as occasion may oblige her; but require a thorough ablution of the whole body, every or every other morning. This will not be thought by any means a work of supererogation, when it is remembered that one or other of the little ones is in the nurse's arms the greater part of the day, and perhaps during the night one has to sleep with her.

A nurse should be an early riser. She will thus betimes have her nursery well ventilated and cleaned, and ready for the children, who are generally early risers, or ought to be. In order that this may be habitually carried out, arrangements must always allow the nursemaid to retire to rest early.

A nursemaid should be fully impressed with the importance of promptly informing the parents of any circumstances connected with the health of the children that from time to time may demand attention. An observant nurse will often, by thus timely drawing attention to slight indisposition, prevent serious

disease. And she should on no account conceal any injury the child may have sustained.

Sect. 2.—Sleep.

For three or four weeks after birth, the infant sleeps, more or less, day and night, only waking to satisfy the demands of hunger. At the expiration of this time, however, each interval of wakefulness grows longer, so that it sleeps less frequently, but for longer periods at a time. This disposition to repose in the early weeks of the infant's life must not be interfered with; but this period having expired, great care will be necessary to induce regularity in the hours of rest, otherwise too much will be taken in the daytime, and restless and disturbed nights will follow. The child should be brought into the habit of sleeping in the middle of the day, say from eleven to one o'clock, and again for half an hour or an hour about three o'clock; not later, or it will inevitably cause a bad night. It should not now be put to sleep immediately after a meal, as the process of digestion would cause the sleep to be uneasy, and therefore unrefreshing. The amount of sleep required will necessarily differ somewhat in different children; but an observant parent will soon determine for herself what is required, and the regulations laid down above will be found generally applicable. The chamber should always be darkened, and kept as free from noise as possible.

During the lying-in month the infant should sleep with its parent; the low temperature of its body, and its small power of generating heat, render this necessary. If it should happen, however, that the child has disturbed and restless nights, it must immediately

be removed to the bed and care of a nurse, to be brought to its mother at an early hour in the morning, for the purpose of being nursed. This is necessary for the preservation of the mother's health, which, through sleepless nights, would of course be soon deranged; and the infant would also suffer from the influence which this would have upon the milk.

When some four or six weeks have elapsed, the child, if healthy, may sleep alone in a cradle or cot; care being taken that it has a sufficiency of clothing, that the room in which it is placed is sufficiently warm—certainly not under 60°—and the position of the cot itself not such as to be exposed to currents of cold air. It is essentially necessary to attend to these points, since the faculty of producing heat, and consequently the power of maintaining the temperature, is less *during sleep* than at any other time, and therefore exposure to cold is especially injurious. It is frequently the case that inflammation of some internal organ will occur under such circumstances, without the true source of the disease ever being suspected. Here, however, the error must be guarded against, of covering up the infant in its cot with too much clothing, throwing over its face the muslin handkerchief, and drawing the drapery of the bed closely together. The object ought to be to keep the infant sufficiently warm with *pure* air, which should have free access to its mouth; and the atmosphere of the whole room therefore should be kept sufficiently warm to allow the child to breathe it freely. To secure this intention in winter, there must always be a fire both in the bedroom and the nursery, and the light must be excluded by closing the window-curtains or shutters.

The child up to two years old, at least, should

4 sleep upon a feather bed, for the reasons referred to above. The pillow, however, after the sixth month, should be made of horsehair ; for at this time teething commences, and it is highly important that the head should be kept cool. Great care must be taken to keep the bed and bed-clothes of the infant perfectly sweet and clean. They should frequently be taken out and exposed to the air. A very excellent means to prevent their being soiled is the use of Mackintosh sheeting, placed next to the mattress.

Sect. 3.—Bathing and Cleanliness.

Too much attention cannot be paid to cleanliness ; it is essential to the infant's health. There is constantly exhaling from the innumerable pores of the skin a large amount of fluid and solid matter, designated in common terms the perspiration. The fluid part of this passes off and mixes with the atmosphere, but a great portion of the solid part is left adhering to the skin. The latter, if not removed, after a time so accumulates as to obstruct the pores, and necessarily impedes any further exhalation. The result is disordered health, or perhaps an obstinate and troublesome eruption on the skin itself. Besides this important consideration, Dr. Erbele very justly observes : 'The agreeable feelings which entire cleanliness is calculated to produce, as well as the excellent moral influence which it is capable of exerting on the mind, are in themselves of sufficient moment to claim for it the most solicitous attention. Children who are early accustomed to the comfortable and healthful impressions of washing and bathing, will rarely in after life neglect the observance of personal cleanliness ; and those, on

the contrary, who are neglected in this respect during childhood, will seldom manifest a proper regard for this physical virtue in the subsequent stages of their lives.'

The principal points to which especial attention must be paid by the parent are the following :—

Temperature of the Water.—In the early weeks of the infant's life, it should, as soon as taken from its bed in the morning, be washed in warm water, from 96° to 98°, and be put into a bath of the same temperature for a few minutes every evening before it is put to rest. To bathe a delicate infant of a few days or even weeks old in cold water, with a view to 'harden' the constitution (as it is called), is the most effectual way to undermine its health and entail future disease. By degrees, however, the water with which it is sponged in the morning should be made tepid, the evening bath being continued warm enough to be grateful to the feelings. A few months having passed by, the temperature of the water may be gradually lowered, until cold is employed, with which it may be either sponged, or even plunged into it, every morning during *summer*. If plunged into cold water, however, it must be kept in but a minute ; for, at this period especially, the impression of cold continued for any considerable time depresses the vital energies, and prevents that healthy glow on the surface which usually follows the momentary and brief action of cold, and upon which its usefulness depends. With some children, indeed, there is such extreme delicacy and deficient reaction as to render the cold bath hazardous—no warm glow over the surface takes place, when its use inevitably does harm : its effects, therefore, must be carefully watched.

Drying the Skin.—The surface of the skin should always be carefully and thoroughly rubbed dry with flannel—indeed, more than dry, for the skin should be warmed and stimulated by the assiduous gentle friction made use of. It is especially necessary carefully to dry the armpits, groins, and nates ; and if the child is very fat, it will be well to dust over these parts with hair-powder or starch contained in a muslin bag : this prevents excoriations and sores, which are frequently very troublesome. Soap is only required to those parts of the body which are exposed to the reception of dirt.

I cannot refrain from quoting a passage here which I recommend to the consideration of every parent, as no less philosophical than practically true :—‘ During this daily process of washing, which should not be done languidly, but briskly and expeditiously, the mind of the little infant should be amused and excited. In this manner dressing, instead of being dreaded as a period of daily suffering—instead of being painful, and one continued fit of crying—will become a recreation and amusement. In this treat your infant, even your little infant, as a sensitive and intelligent creature. Let everything which *must* be done be made not a source of pain, but of pleasure ; and it will then become a source of health, and that both of body and mind—a source of exercise to the one and of early discipline to the other. Even at this tender age the little creature may be taught to be patient, and even gay, under suffering. Let it be remembered that every act of the nurse towards the little infant is productive of good or evil upon its character as well as health. Even the act of washing and clothing may be made to discipline and improve the temper, or to try and impair it, and may therefore be very influential on its

happiness in future life. For thus it may be taught to endure affliction with patience and even cheerfulness, instead of fretfulness and repining. And every infliction upon the temper is also an infliction upon the body and health of the little child. The parent and the nurse should, therefore, endeavour to throw her own mind into her duties towards her offspring. And in her intention of controlling her infant's temper, let her not forget that the first step is to control her own. How often have I observed an unhappy mother the parent of unhappy children ?' ¹

Napkins.—The frequency of the discharges from the bowels and bladder requires a frequent change of napkins. A nurse cannot be too careful of this duty from the first, so that she may be enabled to discover the periods when these discharges are about to take place, that she may not only anticipate them, but teach the child, at a very early age, to give intelligent warning of its necessities. Thus a habit of regularity with regard to these functions will be established, which will continue through life, and tend greatly to the promotion of health. As the child grows older, the system of cleanliness must in no particular be relaxed: the hair must be regularly brushed and combed, and the ears, the eyes, the nose, and the openings of the passages from the interior of the body, as well as the surface of the skin generally, must be kept perfectly clean. The careful adoption of these means will be found the best preservative against those eruptive disorders which are so frequent and troublesome during the period of infancy.

¹ *Letters to a Mother on the Watchful Care of her Infant*, p. 89

Sect. 4.—Clothing.

Infants are very susceptible of the impressions of cold ; a proper regard, therefore, to a suitable clothing of the body is positively necessary to their enjoyment of health. Unfortunately an opinion is prevalent in society that the tender child has naturally a great power of generating heat and resisting cold ; and from this popular error have arisen the most fatal results. This opinion has been much strengthened by the insidious manner in which cold operates on the frame, the injurious effects not being always manifest during or immediately after its application, so that but too frequently the fatal result is traced to a wrong source, or the infant sinks under the action of an unknown cause. It cannot be too generally known that the power of generating heat in warm-blooded animals is at its minimum at birth, and increases progressively to adult age : young animals, therefore, instead of being warmer than adults, are generally a degree or two colder, and, moreover, part with their heat more readily. These facts show how great must be the folly of that system of 'hardening' the constitution, which induces the parent to plunge the tender and delicate child into the cold bath at all seasons of the year, and freely expose it to the cold cutting currents of an easterly wind, in the lightest clothing—a practice as cruel as it is absurd.

The principles which ought to guide a parent in clothing her infant are as follows :—

The material and quantity of the clothes should be such as to preserve a sufficient proportion of warmth to the body, regulated, therefore, by the season of the

year, and the delicacy or strength of the infant's constitution. In effecting this the parent must avoid the too common but frequently fatal practice of leaving bare, at all seasons of the year, the neck, upper part of the chest, and arms, of her child ; such exposure in damp and cold weather being a fruitful source of croup, inflammation of the lungs, and other serious complaints. At the same time a prevalent error in the opposite extreme must be guarded against—that of enveloping the child in innumerable folds of warm clothing, and keeping it constantly confined to very hot and close rooms ; since nothing tends so much to enfeeble the constitution, to induce disease, and render the skin highly susceptible of the impressions of cold, and thus produce those very ailments which it is the chief intention to prevent. The infant's clothing should possess lightness as well as warmth ; and therefore flannel and calico are the best materials to use. The skin, however, in the early months is so delicate, that a shirt of fine linen must at first be worn under the flannel ; but as the child grows older, the flannel is desirable next the skin, giving by its roughness a gentle stimulus to it, and thus promoting health. When a child is at all disposed to bowel complaints, flannel is indispensable.

The clothing should be so made as to place no restrictions on the free movements of all parts of the child's body—so loose and easy as to permit the insensible perspiration to have a free exit, instead of being confined and absorbed by the clothes, and held in contact with the skin till it gives rise to irritation. Full room, too, should be allowed for growth, which is continually and rapidly going on ; and particularly should this be the case round the throat, arm-holes, chest, and wrists,

so that the clothes may be easily let out. The construction of the dress should be so simple as to admit of being quickly put off and on, since dressing is irksome to an infant, causing it to cry, and exciting as much mental irritation as it is capable of feeling. Ordinary pins should be wholly dispensed with, their use being hazardous through the carelessness of nurses, and even through the ordinary movement of the infant itself; and Rowley's nursery pin, with protected point, should be used instead. This leads me to make one general remark, applicable not only to the clothing, but also to other circumstances in the economy of an infant. *The babe can itself give no explanation of the inconveniences it suffers.* 'Bearing this in mind, and remembering how continually adults are annoyed by trifles which they have the perception to discover and the ability to remove, it will readily be acknowledged that nothing is too insignificant for the constant and regular attention of a mother.' For example, articles of dress contract or otherwise lose their shape; a ruck forms, a hook bends, or a button turns and presses upon the flesh; any one of these accidents occasions pain, and frets the temper of an infant.

The clothing should be changed daily; this is eminently conducive to health. There should always, too, be an immediate change of wet and soiled linen for that which is fresh and dry. Unless these directions are attended to, washing will, in a great measure, fail in its object, especially in insuring freedom from skin diseases. The wardrobe, therefore, must be sufficiently large to admit of this; and where pecuniary means are not abundant, the mother, in making her baby-linen, should remember that quantity is more important than quality.

With regard to caps, if you decide to begin with

them at all, they should be made of thin material. The head is to be kept cool, not warm. As soon as the hair begins to grow, caps may with advantage be left off altogether, night as well as day.

During the first three or four months the child's clothes extend considerably beyond the legs and feet; and up to this period, therefore, they are completely protected from cold and the variations of temperature. But from this time, when short-coating, as it is styled, is commenced, cotton or fine flannel socks should be put on in warm weather, and fine angola stockings during cold weather. Shoes also must now be worn, made of light and pliable materials, and large enough to prevent all constraint to the feet, neither too roomy nor too tight. Some persons object to the use of shoes, believing that they interfere with the child's learning to walk; if, however, they are large, and of pliant materials, this cannot be, whilst it must be remembered, on the other hand, that they are useful, not only in protecting the feet from cold, but from injury also; for accidents from pins and needles running into the feet are not at all uncommon where children are allowed to walk without them. The change to short clothing should always be avoided in cold weather.

Sect. 5.—Air and Exercise.

The importance of pure air in the apartments of children was pointed out in the early part of this chapter. I have here only to speak of *open-air exercise*. Daily experience proves how invigorating and vivifying is its influence upon the system of the young. We must, however, act prudently in this matter. A delicate infant, born late in the autumn, will scarcely

be able to be taken out, in a changeable climate like ours, before the succeeding spring; and provided its apartments are large, often changed and well ventilated, it will not suffer from the confinement. No opportunity, however, should be lost, if the child be strong and healthy, of taking it into the open air, at stated periods; of course a due regard being always paid to the state of the weather. To a damp condition of the atmosphere the infant should never be exposed; it is one of the most powerfully exciting causes of consumptive disease: and the same caution is necessary in reference to an easterly wind, being more productive, I believe, of inflammation of the lungs (so frequent in childhood) than any other cause. The nurse should always have strict orders not to loiter and linger about, exposing the infant—the source frequently of a twofold evil, a moral one to herself and a physical one to her charge.

Exercise also, like air, is essentially important to the health of the infant. Its first exercise, of course, will be in the nurse's arms: and here I would observe that *the mode of carrying* an infant must be carefully attended to. The spine and its muscles are seldom sufficiently strong, before the end of the third month, to support the body in an upright position without injury. The infant, therefore, in the first days after its birth, should be taken from its cradle or bed two or three times daily, and laid on its back upon a pillow, and carried gently about the chamber. In three or four weeks it may be carried in a reclining posture on the arm of a careful nurse, in such a way as to afford entire support to the body and head. This is best accomplished 'by reclining the infant upon the fore-arm, the hand embracing the upper and posterior part of the

thighs, whilst its body and head are supported by resting against the breast and arm of the nurse. When held in this way, it may be gently moved from side to side, or up and down, while it is carefully carried through a well-ventilated room.' This plan of passive exercise must be followed until the completion of the third month, when the child will have acquired a sufficient degree of muscular power to maintain itself in a sitting posture. In carrying it about, however, in this position, the spine and head should be more or less supported by the nurse till the child is six months old.

In the mean time, when two or three months old, and it begins to sleep less during the day, the infant will greatly enjoy being occasionally placed upon a sofa mattress or sofa, and allowed to roll and kick about at its pleasure. Such exercise will tend much to develop the powers of its muscular system; it will also learn to use its limbs, and walk earlier than if deprived of this freedom of action.

It is a very common practice for a nurse to support a young infant upright on her knee, and violently to jolt it up and down—violently, indeed, considering the delicate structure of the infant's frame. This is done thoughtlessly, and in the belief that it is a source of enjoyment, while it is manifestly inflicting pain on the child. Gentle and cautious tossing, or rather dandling to and fro, is really agreeable to a child, and can never, therefore, be objectionable; but the rough treatment alluded to a mother must carefully prevent. The same precaution it is necessary to observe in regard to the rocking an infant in a cradle. I believe that gentle and cautious rocking is a soothing and useful exercise to a child; but it is quite otherwise when rough and long-continued.

By-and-by, the child will make its first attempts to walk. Now, it is important that none of the many plans which have been advised to teach a child to walk should be adopted—the go-cart, leading-strings, and contrivances of this sort: their tendency is mischievous; and flatness of the chest, confined lungs, distorted spine, and deformed legs, are so many evils, which often originate in such practices. This is explained by the fact of the bones in infancy being comparatively soft and pliable; and if prematurely subjected, by these contrivances, to carry the weight of the body, they yield just like an elastic stick bending under a weight, and, as a natural consequence, become curved and distorted. It is highly necessary that the young and inexperienced mother should recollect this fact; for the early efforts of the child to walk are naturally viewed by her with so much delight, that she will be apt to encourage and prolong its attempts, without any thought of the mischief which they may occasion; thus many a parent has had to mourn over the deformity which she has herself created. It may be as well here to remark that, if such distortion is timely noticed, it is capable of correction, even after evident curvature has taken place. It is to be remedied by using those means which invigorate the frame and promote the child's general health (a daily plunge into the cold bath, or sponging with cold salt water, will be found signally efficacious), and by avoiding the original cause of the distortion—never allowing the child to get upon its feet. The only way to accomplish the latter intention is to put both the legs into a large stocking; this will effectually answer the purpose, while, at the same time, it does not prevent the free and full exercise of the muscles of the legs. After

pursuing this plan for some months, the limbs will be found no longer deformed, the bones to have acquired firmness, and the muscles strength ; and the child may be permitted to get upon its feet again without any hazard of renewing the evil.

The best mode of teaching a child to walk is to let it teach itself ; and this it will do readily enough. It will first learn to crawl : this exercises every muscle in the body, does not fatigue the child, throws no weight upon the bones, but imparts vigour and strength, and is thus highly useful. After a while, having the power, it will wish to do more : it will endeavour to lift itself upon its feet by the aid of a chair ; and though it fail again and again in its attempts, it will still persevere until it accomplish it. By this it learns, first, to raise itself from the floor ; and, secondly, to stand, but not without keeping hold of the object on which it has seized. Next it will balance itself without holding, and will proudly and laughingly show that it can stand alone. Fearful, however, as yet, of moving its limbs without support, it will seize a chair or anything else near it, when it will dare to advance as far as the limits of its support will permit. This little adventure will be repeated day after day with increased exultation, when, after numerous trials, the child will feel confident of its power to balance itself, and it will run alone. Now, time is required for this gradual self-teaching, during which the muscles and bones become strengthened, and, when at last called upon to sustain the weight of the body, they are fully capable of doing so.

Sect. 6.—Aperient Medicine.

One of the greatest errors of the nursery is the too frequent and indiscriminate use, by the mother or nurse, of *purgative* medicine. Various are the forms in which it is given : perhaps, among a certain class, the 'little powder' obtained from the chemist is the most frequent, as it is certainly the most injurious, from its chief ingredient being calomel. With such persons the choice of the aperient, or the dose, or the exact condition of the health, or whether it is an aperient at all that is required, are considerations which never for one moment enter their minds : a little medicine is thought necessary, because it is evident the child is not well, and a purgative or a little white powder is forthwith given. For instance, I have known a nurse thoughtlessly give a large dose of magnesia to an infant that had been suffering from a diarrhoea of some days' standing, and cause death. Now this medicine is one of the most useful and harmless that can be given to a child when it is really indicated, and in a dose suited to the age, and when the proper time is fixed upon for its exhibition ; in the foregoing case everything forbade its use : but none of these points were considered. Again, a mother frequently falls into the common error of repeating aperient medicine to remove those very symptoms which its exhibition has produced. Some incidental pain and uneasiness, some slightly greenish appearance of the motions, leads to the belief that more purging is necessary, when in fact both circumstances have probably been induced by the irritation caused by the purgatives already too freely administered. How often is this the case during

the first week or ten days of the infant's life, when the nurse doses the child with tea-spoonful after tea-spoonful of castor-oil, for the relief of pain, *which her repeated doses of medicine have alone created!* It would be well if all who have the management of children were to remember, whenever they open the medicine-chest, that 'the great art of medicine is the proper application of the proper medicine in the proper dose at the proper time.'

I must here remark that in *some* cases of costiveness aperient medicines are quite out of place, and tend to make matters worse rather than to relieve them. It is due to deficient nervous supply, and requires tonics for its cure. In such cases the family doctor should be called in. There are also other causes, such as water on the brain, and also mechanical impediments, each of which requires its appropriate treatment.

For the information of a young mother, it is important to mention that the bowels of an infant in health should be relieved two or three times in the twenty-four hours; that the stools should be of the consistence of thin mustard, of a lightish yellow colour, free from any foetid or acid smell, destitute of lumps or white curdy matter, and passed without pain or any considerable quantity of wind; and that as the child grows older, while the stools diminish in number, they become darker in colour.

The following purgatives are the only ones that ought to be found in the nursery; and they may be given with perfect safety by the parent, either alone or in the combination prescribed, provided always the directions laid down are attended to.

Castor-oil.—A mild aperient, prompt in its action, and effective; it is a medicine, therefore, particularly

applicable to infants. It has this great advantage, too, over other purgatives—that while they generally cause a confined state of bowels after their action is passed off, this leaves them relaxed. *The dose* will depend upon the age and the known effects of aperient medicine upon the child; some requiring more, others less. As a general rule, one or two tea-spoonfuls. To cover its unpleasant flavour it may be given in various ways: either mixed in warm milk, or floating on peppermint, mint, or some other aromatic water. Or, if the stomach is unusually delicate, it may be made into the following emulsion, of which give a dessert-spoonful or more, according to the age, every hour until it operates:—Take of castor-oil, six drachms; the yolk of an egg; dill-water, two ounces; loaf-sugar, two drachms; mix intimately.

For overcoming *habitual costiveness* no medicine can be so much relied upon as castor-oil. It may for this purpose be given daily for some weeks, gradually reducing the dose until only a few drops be taken; after which the bowels will generally continue to act without further artificial assistance.

During teething, when there is a sluggish state of the bowels, castor-oil is a very useful remedy. I am in the habit, however, in this case, of prescribing it in combination with magnesia, in a form which I owe to Dr. Eberle, and which is so certain and mild in its operation, while it is really pleasant to the taste, that I find children take it with little or no reluctance. The following is the form, of which give one or two tea-spoonfuls for a dose, and repeat it if necessary:—Take of castor-oil, one ounce; calcined magnesia, two drachms; loaf-sugar, three drachms; oil of anise, two drops; mix intimately.

Manna.—This also may be given with impunity to the youngest infant; it is sweet to the taste, and mild in its operation. *The dose* is from one to three drachms. It may be given in a little warm milk; or, if it cause flatulence in this form, in some aromatic water, as a dessert-spoonful of caraway-seed or dill-water. For children above two years, it must always be given with some other aperient; thus it may be combined with castor-oil by the medium of mucilage or the yolk of an egg; in fact, it might be substituted for the white sugar in the previous prescription for castor-oil.

Magnesia and Rhubarb.—*Magnesia*, besides being a laxative, allays irritability of the stomach; it is consequently useful during dentition, at which period there is both much irritability and a prevailing aciesency of the stomach. *The dose* is from five grains to ten for an infant, increasing the quantity to fifteen grains or twenty to children of nine or ten years of age. When taken alone the best vehicle is hot milk, which greatly quickens its aperient operation. And whenever the bowels are distended with wind, the pure magnesia is preferable to the carbonate. It is well to mention here, that when the infant throws up the nurse's milk it is generally curdled—a fact which leads the inexperienced mother to infer that the child is suffering from acidity, and to counteract the supposed evil magnesia is given again and again. This is a useless and pernicious practice, for curdling or coagulation of the milk always takes place in the stomach, and is produced by the gastric juice; so far from being a morbid process, milk cannot be properly digested without its taking place.

Rhubarb, it should always be recollected, has an

astrigent as well as purgative property, according to the extent of the dose in which it is administered ; the former of which never opposes or interferes with the energy of the latter, since it only takes effect when the substance is administered in small doses, or, if given in larger ones, not until it has ceased to operate as a cathartic. This latter circumstance renders it particularly eligible in mild cases of diarrhoea, as it evacuates the offending matter before it operates as an astrigent upon the bowels. As a purgative it operates mildly, and may be given to the youngest infant ; if from two to twelve months old, from three to six grains ; for children above that age, the dose may range from ten grains to twenty. Its operation, however, is much quickened by the addition of magnesia ; both of which are more effective when thus united than when given separately. The following form, in a costive and flatulent state of the bowels, will be found useful ; a tea-spoonful or more may be given every three or four hours until the desired effect is obtained :—Take of powdered rhubarb half a drachm ; magnesia, two scruples ; compound spirits of ammonia, twenty drops ; dill-water, two ounces ; simple syrup, two drachms.

Purgative Biscuits.—For years, in some families, aperient medicine, when occasionally required, has been exhibited in this form. There can be no objection to this, if it lessens the child's *misery* in physic taking ; but these biscuits must be carefully made and carefully used. The Montpellier Hospital has the following formula, which, as its purgative quality is *jalap*, should not be given to very young children :—

Take an ounce of flour and an ounce of sugar, two eggs, and one drachm of powder of jalap ; let three biscuits be made, a

quarter of one of which will contain five grains of jalap, and may be taken once or twice a day according to the effect.

The following formula for *castor-oil biscuits* may also be occasionally resorted to :—

Take a quarter of a pound of flour, two ounces of moist sugar, a small quantity of mixed spice finely powdered, and, with an ounce and a half of castor-oil, make the whole into the consistency of pie-crust ; to which may be added a few currants. After rolling out the paste, divide into ten cakes, and bake over a quick oven. Each cake will contain rather more than a teaspoonful of oil, and one or more may be given, according to the age of the child. The same may be made into gingerbread nuts by adding proper proportions of treacle and ground ginger.

The Enema (*Injection*).—This is an excellent nursery remedy when the bowels are obstinately costive. It may then be employed as a substitute for medicine, a protracted and frequent use of which (even of the mildest aperients) is apt to injure the digestive functions, and to give rise to some degree of intestinal irritation. Injections, however, like aperient medicine, must not be resorted to for a long time together ; for whilst the latter irritate, the former most certainly tend, after a long-continued use, to debilitate the bowels, and thus render them less than ever disposed to act for themselves. They are an excellent *occasional* remedy.

The simplest form of an aperient enema is warm water ; but barley-water, or thin gruel, or even milk-and-water, are to be preferred at all times, as they are of a more bland and less irritating nature. If it be desirable to increase the strength of the injection, castor-oil may be added. The proportions of fluid which are necessary for the different stages of life under ordinary circumstances, may be stated as follows :—An infant

equal to 2 tablespoons

at its birth requires about one fluid ounce; a child between the age of one and five years, from three to four fluid ounces; and a youth of ten or fifteen, from six to eight fluid ounces.

✓ *The mode of administering an injection* to an infant deserves particular attention, as injury might be caused by its being performed in a careless or unskilful manner. A gum-elastic pipe should be always used instead of the hard ivory tube. Having smeared this over with lard, and placed the infant on its left side, with its knees bent up in the lap of the nurse, it is to be passed a couple of inches into the bowel, in a direction not parallel to the axis of the body, but rather inclined to the left. The latter circumstance should never be neglected, for if not attended to, there will be difficulty in administering the injection. The fluid must then be propelled very gradually, or it will be instantly rejected; on the whole being thrown up (the pipe carefully and slowly withdrawn), the child must be kept quietly reposing on its nurse's lap, and in the same posture, for some little time.

The Aperient Liniment.—A liniment to be rubbed on the stomach is another resource in cases of habitual costiveness, and will frequently be attended with great success when repeated purgatives have been resisted.

Olive or castor-oil may be used for this purpose; they must be warmed and rubbed over the abdomen night and morning for five or ten minutes. Perhaps the best form of liniment that can be made use of is: one ounce of compound soap liniment mixed with half an ounce of compound tincture of aloes.

Sect. 7.—Calomel.

Calomel is one of the most useful medicines we possess; but though powerful for good it is by no means powerless for mischief, and pages might be written upon the evil effects which have resulted from its indiscriminate use in the nursery; medical men are daily and hourly witnessing this fact. It is particularly eligible in the diseases of children; but then it is quite impossible *for unprofessional persons* to judge when it may be appropriately exhibited. And it cannot be too generally known, that the effect of this medicine upon the evacuations is always to make them appear unnatural. From ignorance of this fact, calomel is often repeated again and again to relieve that very condition which it has itself produced, causing but too frequently a degree of irritation in the delicate lining membrane of the bowel which it may be very difficult for a medical man to remove, and perhaps a source of misery to the child as long as it lives. Its frequent exhibition has also another evil attending it, for ‘the immoderate use of mercury in early infancy produces more, perhaps, than any other similar cause, that universal tendency to decay, which, in many instances, destroys almost every tooth at an early age.’

In the diseases of childhood it is often administered by the mother or nurse with a degree of careless excess which ultimately, if not immediately, produces severe and irremediable injury. I have met with such cases; but Mr. Bell details a remarkable instance in point: ‘A child, about three years of age, was brought to me, having a most extensive ulceration in the gum of the lower jaw, by which the alveolar process (that portion

of the jaw which forms the sockets of the teeth) was partially denuded. The account given by the mother was, that the child had some time previously been the subject of measles, for which a chemist, whom she consulted, gave her *white powders*, one of which was ordered to be taken every *four hours*. It appears by the result that this must have been calomel; for, after taking it for two or three days, profuse salivation was produced, with swollen tongue, inflamed gums, &c., followed by ulceration of the gums, lips, and cheek. On examining the denuded alveolar process, I found that a considerable necrosis (death of the bone) had taken place, including the whole anterior arch of the jaw from the first double-tooth on the left side to the eye-tooth on the right. By degrees the dead portion of bone was raised and became loose, when I found that the mischief was not confined to the alveolar process, but comprised the whole substance of the bone within the space just mentioned, &c. Surely the knowledge of such a case as this would induce every prudent mother to *exclude calomel from her list of nursery medicines*. The stimulating effects of mercury may be analogically illustrated by the stimulating effects of dram-drinking. As the stomach accustomed to ardent spirits will scarcely tolerate any weaker beverage, so the liver, accustomed to the stimulus of mercury, will hardly respond to any other influence. Those, therefore, who in early life have on all trivial occasions resorted to the powerful stimulus of mercury, like early dram-drinkers, are usually obliged to persist in the baneful habit. The truth of this analogy will be scarcely questioned; for the most superficial observer must have noticed that patients who habitually take calomel are more than ordinarily subject to periodical

congestions, or *biliary* attacks, as they are termed, and that such biliary attacks will rarely yield to any other remedy than calomel. Nor is the insensibility to gentler expedients, thus too often produced in the soundest constitutions by the use of mercury, its only fault; the habitual use of this remedy is capable of exerting positive mischief on the assimilating functions and on the kidneys of some individuals. Moreover, those who are under the influence of mercury in a degree far short of salivation, are notoriously liable to take cold, rheumatism, &c., from slight exposure; and various formidable and fatal diseases, as phthisis, &c., can be often distinctly traced to such exposure under the influence of mercury.

Sect. 8.—Opiates.

This class of medicine is often kept in the nursery, in the forms of laudanum, syrup of white poppies, paregoric elixir, Dover's Powder, Dalby's Carminative, and Godfrey's Cordial. The object with which they are generally given is to allay pain by producing sleep, or, perhaps much more frequently, to allay the crying of a fretful child. They are, therefore, *remedies of great convenience to the nurse*; and so exhibited, they are *too often fatal*.

Even in the hands of the physician, there is no medicine the administration of which requires greater caution and judgment than opiates, both from the susceptibility of infants to their narcotic influence, and their varying capability of bearing it. The danger, therefore, with which their use is fraught in the hands of a nurse should rigorously exclude them from the list of nursery medicines.

It is calculated that *three-fourths* of all the deaths that take place from opium or its compounds occur in children *under five years of age*. The amount which will sometimes cause death is very small; a fact most important to remember, and of itself a powerful argument against its use *in any form by unprofessional persons*. It is very important to bear in mind that *infants and young persons* are liable to be killed by small drops of opium; they appear to be peculiarly susceptible of the effects of this *poison*. A case was reported in the 'Lancet,' in which an infant *seven days* old died in 18 hours from the effect of *one minim* of the tincture, which is equal to the *fifteenth part of a grain* of solid opium.

Syrup of Poppies.—This is nothing more than a sweetened decoction of poppy-heads. It is a most unsafe preparation, as its strength is so variable. Dr. Taylor, in his admirable work on Poisons, states that 'there is reason to believe the compound sold by some druggists for syrup of poppies, as a soothing or cordial medicine for children, is nothing more than a mixture of tincture or infusion of opium with simple syrup; it is therefore of variable strength. Many cases of poisoning have occurred from the use of this preparation. The late Dr. Pereira states that he has known a tea-spoonful prove fatal to a healthy child. Dr. Taylor, in his work before alluded to, says: 'I have notes of two cases which occurred in 1871, in one of which a child, 18 weeks old, died in 26 hours from the effects of a tea-spoonful; and the other in which an infant 5 weeks old was killed by three-parts of a tea-spoonful of this syrup.'

Mrs. Winslow's Soothing Syrup (called also 'Quietness') very much resembles syrup of poppies.

A case of poisoning is related in the 'Pharmaceutical Journal' for June, 1872, in which a child aged 15 months died after two doses of this 'quietness.' Another fatal case is reported in the 'British Medical Journal' for September, 1873.

Dalby's Carminative.—This is a compound of several essential oils and aromatic tinctures in peppermint-water, with carbonate of magnesia and tincture of opium. 'Accidents frequently occur from its use, partly owing to ignorance and partly to gross carelessness on the part of mothers and nurses.'

Godfrey's Cordial.—'This is chiefly a mixture of infusion of sassafras, treacle, and tincture of opium. In five years (1863-67) *fifty-six* deaths were recorded to have taken place from this compound.'

Paregoric, Dover's Powder, Black Drop, Battley's Sedative Solution, are 'all so many preparations of opium; and as such ought never to be prescribed by any but a qualified medical practitioner.'

Convulsions and epilepsy, without such fatal results as the foregoing, are not uncommon as the effect of a single dose of an opiate given unadvisedly; and by their continued and habitual use (and a lazy, unprincipled nurse, unknown to the parent, will very often resort to these medicines in some one or other form) a low, irritative, feeble state is produced, gradually followed by loss of flesh; the countenance becoming pallid, sallow, and sunken; the eyes red and swollen; the expression stupid and heavy, and the powers of the constitution, at last, becoming completely undermined. Such an object is to be seen daily among the poorer classes—the miniature of a sickly aged person; death soon follows.

The habit of administering opiates to young children

has become prevalent to an alarming degree in the manufacturing counties, and to a considerable extent in rural districts. It is not confined to infants suffering from disease, but also extends to those in a state of health, in order to ensure their more easy management when the mother is absent from home. A respectable druggist in Manchester states: 'I sell in retail about five gallons per week of "quietness," and half a gallon of "Godfrey,"'¹ the former preparation being so strong as to contain 100 drops of laudanum in an ounce; a single tea-spoonful is the prescribed dose, so that, allowing one ounce weekly to each family, this one druggist supplies 700 families every week. It behoves parents residing in these districts to be more than usually careful to whom they entrust their children.

I think I need not say more, and I dare not have said less, concerning the use of sedatives and cordials. While fully conscious of the great advantages which can be obtained from the proper use of opium, I cannot but feel that the sale of this drug ought to be prohibited except to medical men. So-called 'patent' medicines which contain this drug ought to be abolished altogether; or if this measure be deemed too severe, the proprietors ought by law to be compelled to state the amount of opium which each recommended dose contains.

To such of my readers who consult this book for information and guidance, I will sum up the question of opiates in the following words. *To you and your child OPIUM in any of its preparations, unless prescribed by your medical practitioner, is nothing more or less than POISON—therefore have NOTHING to do with it.*

¹ Second Report of the Commissioners on the State of Large Towns, &c., p. 454.

Sect. 9.—Leeches.

Leeches should never be employed unless ordered by the medical attendant; and when used, never let the young child see them: it can be easily prevented: and, as the sight of them generally gives alarm, it should be avoided. When applied to the chest for any inflammatory attack, expose as little of the surface during the time the leeches are drawing as possible, lest fresh cold should be given.

The Mode of applying them.—First wash the part and dry it thoroughly. Then the readiest mode of applying the leeches is to take off the lid of the chip box in which they are sent, placing the mouth of the box on the part to which they are to be applied. Keep it steadily there for ten minutes, and then lift up the edge, and you will generally find that the leeches have taken. Next separate their tails from the bottom of the box, and so remove it. If the leeches take well, at the expiration of twenty minutes or half an hour they will drop off, filled, having done their duty, with the exception, perhaps, of a solitary one still adhering, but idle. This should be at once separated, not by forcibly detaching it, but by means of a little salt being put on its head. It is a great mistake to allow a single leech to remain on for an hour or more after the others have dropped off, doing nothing, while it wearies and exhausts the child. The leech-bites are now to be sponged with warm water, or a bread-and-water poultice applied, as may have been directed by the medical attendant. In children, however, a poultice is seldom ordered; and so having been sponged for ten minutes, a pledget of lint is to be placed over the part,

and steady pressure to be placed upon it, and kept up by the ends of the fingers for five or ten minutes, and subsequently by means of a bandage or otherwise—being always most careful not in any degree to disturb the lint. In general this quickly puts a stop to the bleeding.

The Mode of arresting the Bleeding.—Difficulty sometimes arises in putting a stop to the bleeding from leech-bites—a matter of considerable importance in the case of a delicate infant. And in order to prevent the serious consequences that sometimes happen from this source to children, the bleeding should always be stopped before the patient is left for the night. Again, it is always prudent to apply them only over some bone, so that pressure may be effectually applied. The following measures may be resorted to for arresting the bleeding when necessary :—

1. Expose the surface of the part to the external air, so that a coagulum of blood may form at the orifice : this simple mode will frequently arrest it.

2. If this fail, make compression upon the part : this is one of the most effectual means of restraining hæmorrhage. It is to be effected by placing a *small* portion of scraped lint over each leech-bite, and pressing on them with the points of the fingers (previously greased with cold-cream, that they may not, when taken away, disturb the lint) for five or ten minutes. Or, if this fail, twine a very small piece of lint into a hard knot, so as to be less than a pea ; and wiping the orifice quite clean of blood, place this little pad upon the bleeding point ; then, taking advantage of the elasticity of the integument, draw a strip of adhesive plaster tight over it. The point to be observed in this application is, that the strip of plaster may be long

enough to ensure a steady pressure of the pad by drawing up the integuments from a distance, by which the elastic quality of this structure gives a permanent pressure; but even this pressure should be confined as much as possible to the bleeding orifice.

3. If the compression fails in stopping the bleeding, or from the situation of the leech-bites it cannot be adopted, because there is no firm point of resistance upon which to make pressure, the part may be dusted with starch or gum-arabic powder; or, if this is of no avail, the wound may be touched with lunar caustic, which should be scraped previously to a fine point, for this purpose.

If none of these measures are successful, the assistance of the medical attendant must be obtained; and if firm pressure be made upon the part, no serious loss of blood can ensue before his arrival.

Leeches should never be resorted to by a parent for any of the diseases of infancy without medical direction

Sect. 10.—Blisters.

A blister should never be resorted to for any infantile disease, except when ordered by a medical man, as its injudicious use might greatly aggravate the complaint. It should never be applied to any part where the skin is excoriated or broken. In applying it, it should be ascertained that it is really in contact with the skin; and, to secure this, the finger should be passed rather firmly over it, after it is put on, particularly round its edge. It should never be allowed to remain on longer than from two to four hours, at the expiration of which time the skin will generally be found red and inflamed; and if the plaster is removed,

and the part dressed with spermaceti-ointment or a bread-and-water poultice, a full blister will usually be found to rise in an hour or so after. This precaution is necessary, because, from the great irritability of the skin of the child, there is danger that not only the scarf-skin (as it is called) will be raised as a blister, but the true skin beneath will be destroyed. This would occasion great suffering, and cause a very troublesome sore, seriously affecting the health and strength of the child, and perhaps even put its life in jeopardy. This danger, however, may at all times be avoided, first by interposing between the blister and the child's skin a piece of tissue-paper, to be previously moistened with almond-oil—or if the oil is not at hand, by rubbing the surface of the paper with the point of a warm finger on that of the blistering ointment, and it will quickly become saturated with the grease it contains; and, secondly, whether the previous precaution is adopted or not, by carefully raising the edge of the blister when it has been on two hours, and if the part looks red and inflamed, by at once removing it, particularly if there be already little points of vesication visible.

In dressing the blister great care should be taken, in letting out the fluid, not to tear the bladder. Having spread a piece of lint the size of the blistered part with spermaceti-ointment, take a sponge previously softened by rinsing in warm water, and hold it just beneath the most dependent part of the fluid bladder. Make a snip at this part with the points of a sharp pair of scissors, and the fluid running out will be received by the sponge. If not entirely emptied, what is left may be carefully pressed out, and if this cannot be accomplished without another snip of the scissors, it must be

made; but spare the skin as much as you can. The object of all this care of the scarf-skin is simply this: it protects the true skin beneath from the external air, which would dry its surface, render it very sore, and interfere with the ready healing of the blister. In four hours the blistered surface should be again looked to, and if any further accumulation of fluid has taken place, it must be let out as previously, and the sore must be again dressed. For the next twenty-four hours the dressing must be renewed every four hours, after which time, the inflammation having subsided, morning and evening will be often enough.

Sect. 11.—Poultices.

Bread-and-water Poultice.—Although this is one of the commonest applications in use, it is rarely well made or properly applied. It thus becomes injurious rather than useful; adding to the inflammation or irritation of the part, instead of soothing and allaying it. Nothing, however, is more simple than the mode of its preparation. Scald a basin, and then pour boiling water into it. Cut the hard outsides from a sufficient quantity of stale bread, and crumble it into the water. Most of it will sink to the bottom. Those pieces which float are lumpy, and can be skimmed off with a spoon. Pour off the water and empty out the poultice on to a piece of linen which is to contain it, having previously laid this on a folded towel. This will drain the poultice of its superfluous moisture. Fold the edges of the linen a little over the edges of the poultice, and apply it just warm enough to be borne; then cover it with oil-silk. A poultice thus made will form an exquisitely bland and soothing application to an inflamed surface;

and the oil-silk preventing evaporation, it will be found, when taken off, as moist as the first moment that it was put on.

Linseed-meal Poultice.—This is seldom made properly. The late Mr. Abernethy thus described how it ought to be made: ‘Scald your basin,’ he says, ‘by pouring a little hot water into it; then put a small quantity of finely-ground linseed-meal into the basin; pour a little hot water on it, and stir it round briskly until you have well incorporated them; add a little more meal and a little more water, then stir it again. Do not let any lumps remain in the basin, but stir the poultice well, and do not be sparing of your trouble. If properly made, it is so well worked together that you might throw it up to the ceiling, and it would come down again without falling in pieces; it is, in fact, like a pancake. What you do next is to take as much of it out of the basin as you may require, lay it on a piece of soft linen, let it be about a quarter of an inch thick, and so wide that it may cover the whole of the inflamed part.’

Mustard Poultice.—This is an invaluable application in some of the diseases of infancy and childhood, and therefore frequently ordered. It is made as follows:—First mix two-thirds of mustard-flour and one-third of wheaten-flour, as much as you will require for your poultice. Then scald out a basin with boiling water; into this put your mixture of mustard and wheaten-flour; pour a little hot water on it, stir it round, and add water sufficient to make it the consistence of thick paste. Then spread on soft linen, about a quarter of an inch thick, the size ordered, and apply next the skin. The time it is to be kept on will depend upon the individual sensibility of the skin of

the child ; but in general from fifteen to twenty minutes will be found amply sufficient. This application must at all times be carefully watched : for if it remain on too long, ulceration and even death of the part might ensue ; therefore, directly the skin is found tolerably red, the poultice should be removed. After its removal a soft piece of linen is to be put over the part, and if very painful it may be dressed with spermaceti-ointment.

Sect. 12.—The Warm Bath.

The warm bath, judiciously prescribed, is one of the most valuable remedial agents we possess, and the means for promptly administering it should always be at hand. For infants with active inflammatory affections of the respiratory organs, it is a remedy of the first importance. Again, when a child is attacked with convulsions, there is no safer or surer remedy than a hot bath. In the early stage of croup also, hot baths are of the greatest service ; their use has saved many a child's life.

As a preventive, where there is a tendency to disease, the warm bath may be employed without scruple, and will be found most serviceable. Its value in this point of view is very great, and it is to be regretted that it is not sufficiently appreciated and used. For example, a severe cold has been taken and inflammation of the air-tubes is threatened ; only put the child into a warm bath, and, with the common domestic remedies, a very serious attack may be warded off. Again, in the commencement of a diarrhoea, a warm bath, and discontinuing the cause of the attack, will alone suffice to cure ; and, moreover, in the protracted diarrhoea attendant upon teething, where, after various

remedies have been tried in vain, the child has lost flesh and strength to an apparently hopeless degree, recovery has been brought about by the simple use of the warm bath.

The opinion that warm baths generally relax is erroneous ; they are, no doubt, debilitating when used by persons of a weak and relaxed constitution, or when continued too long ; but, on the contrary, they invariably give tone when employed in the cases to which they are properly applicable.

There are certain *rules for the use of the warm bath*, which should be invariably acted up to. Their neglect might be followed by serious consequences.

Temperature of the Water.—When the warm bath is used as a *measure of hygiene*, as a general rule, any degree of temperature may be chosen between 92° and 98° which appears to be the most agreeable to the child ; but on no account must 98° be exceeded. When ordered as a *remedial measure*, the temperature will of course be fixed by the medical attendant. The same degree of temperature must be kept up during the whole period of immersion. For this purpose the thermometer must be kept in the bath, and additions of warm water made as the temperature is found to decrease. These additions of warm water, however, must be regulated *by the thermometer*, and not by the feelings of the child or of the nurse.

Period of remaining in the Bath.—This must depend on circumstances. It must be varied according to the age of the child. For the first four or five weeks the infant should not be kept in beyond three or four minutes ; and the duration must be gradually prolonged as the child advances in age, until it extends to a quarter of an hour.—a period which may be allowed

after it has attained the age of four years. If the bath is employed as a *remedial agent*, the time of immersion must be prolonged; this will be determined by the medical adviser. Speaking generally, a quarter of an hour may be said to be the shortest period, an hour the longest, and half an hour the medium. ✓

When in the bath, care must be taken that the child's body is immersed up to the shoulders or neck, otherwise that part of the body which is out of the bath (the shoulders, arms, and chest), being exposed to the cooler temperature of the air, will be chilled. And the instant the infant is taken out of the bath, the general surface, especially the feet, must be carefully rubbed dry with towels previously warmed; and when one of the objects of the bath is to excite much perspiration, the child should be immediately wrapped in flannel and put to bed. If, however, the object is not to excite perspiration, the child may be dressed in his ordinary clothing, but should not be allowed to expose himself to the open air for at least an hour.

Time of using the Bath.—When resorted to for sudden illness, the bath must of course be employed at any time needed. For any complaint of long standing, or as a general rule, it should be taken between breakfast and dinner, about two hours after the former, or an hour and a half before the latter. This implies that an infant should never be put into the bath after having been freely nourished at the breast. Neither should it ever be used when the child is in a state of free perspiration from exercise, or on awakening from sleep. ✓

Foot-bath.—A partial warm bath, such as the foot-bath, is one of the safest and most frequently employed in the nursery. It is frequently ordered during

teething, and in affections of the head. In these cases the intention is not merely to produce a gentle and general perspiration, but it is more particularly used to draw the blood from the head and body to the feet. The temperature of the water should be raised as high as can be borne, and it must be kept up by the occasional addition of fresh hot water. The vessel employed should be deep enough to permit the water to reach the knees, and a blanket must be thrown round the little patient and the bath. After the child has remained in from ten minutes to a quarter of an hour, the feet and legs must be rubbed perfectly dry, woollen stockings drawn on, and the child put into a warm bed.

A mustard foot-bath is made by the addition of a table-spoonful of mustard-flour to every gallon of water. In convulsions excited by difficult teething, this bath is most useful, and may always be resorted to without fear by the mother. Its good effects will be much enhanced if, at the same time, a piece of flannel wet with cold water is applied over the head and temples, or cold water may be sprinkled on the face.

CHAPTER XI.

OF VACCINATION.

IN the year 1876, I think it is scarcely necessary to point out the immense advantages of vaccination. One hears, it is true, every now and then of weak-minded individuals, who resist the evidences of facts and of their senses, and oppose it, but they form an exception which proves the rule. We need only refer to the Registrar-General's annual reports, if we require any further proofs of the efficacy of this measure. The deaths from small-pox now are but a tithe of what they were formerly ; and if we remember that a large proportion of *those who did not actually die* only recovered with shattered health and broken-down constitutions, and that *all* were horribly disfigured, and many of them blind, I think you will agree with me in saying that Dr. Jenner's discovery is one of the greatest advances of modern science.

There are several circumstances connected with vaccination—namely, the age and condition of the child upon whom it is to be performed, the progress and appearance of the vaccine vesicle, and the maternal management of the child during the process—with which a parent ought to be more or less acquainted.

The Age and Condition of the Child.—The most favourable time for vaccinating an infant is between

the age of six weeks and four months—a period that is prior to the irritation of teething and also subsequent to the extreme irritability of first infancy. Should, however, small-pox be very prevalent in the near neighbourhood, rather than expose the infant to its contagious influence it should be vaccinated *at once*. There will be but little risk in this measure, even if resorted to immediately after its birth.

The usual time *and the best time*, as fixed by the Vaccination Act, is at the age of *three months*. The child should be, as far as possible, in perfect health; if, however, any disease be present, such as skin eruptions, the thrush, wasting disease, abscesses in bones or joints, then vaccination may be postponed, *provided there be no small-pox in the neighbourhood*. But if, on the contrary, there should be small-pox, have your child vaccinated immediately: the dangers of small-pox are *ten times worse* than anything vaccination can cause.

In giving you this advice, I of course presuppose that the vaccination will be well done; that the vaccine lymph will have been taken from a perfectly healthy child. Recently the Royal College of Physicians have required that all candidates for their diplomas shall have been thoroughly instructed in vaccination, and in all the medical schools systematic instruction is afforded; so that now-a-days there is little fear that the operation is not thoroughly and well performed. The experience, too, which has been gained during the past seventy years, has taught medical practitioners how to avoid the mistakes and fallacies into which want of experience led some of the earlier promoters of the proceeding.

It is a natural and very proper feeling which

prompts mothers to have their children vaccinated from the child of some neighbour or friend ; indeed I strongly advocate this, and in order that some of the conditions most essential to successful vaccination may be well known, I append in the next paragraphs what I consider to be the chief general points, leaving, of course, to the surgeon and to his discretion to decide and advise in the individual case.

The best place is on the arm, three or four inches below the tip of the shoulder, and a little to the outer side.

Have the child vaccinated on both arms ; three 'places' on each arm will suffice.

The matter should be taken on the eighth day ; it is then at its best, and now confers the greatest immunity from small-pox. So that if you wish to have your child vaccinated from a friend's child, choose the eighth day, and arrange if possible to meet your medical man at the house, and have your child vaccinated '*direct*.'

When the vaccine vesicle begins to rise, you must be careful not to rub it : the child's sleeves should be loosened also, as the arm inclines to swell. Rubbing interferes with the proper development of the 'place,' and renders it unfit to vaccinate others with.

The health and constitution of the child from whom the lymph is taken should always be carefully regarded. Not only should the child be in good health, but its parents also ; it should have no cutaneous affection or vicious constitutional taint, and should be about three months of age.

The above precautions being adopted, your child may be vaccinated, and you may rest perfectly assured that no harm will come of it.

The Appearance and Progress of a genuine Vaccine Vesicle.—If the vaccination has been successfully performed upon a healthy infant, the puncture on the *second* day may be felt elevated ; on the *third* or *fourth* a small red pimple is to be seen, and if examined with a magnifying-glass, surrounded by a slight efflorescence ; on the *fifth* day a distinct vesicle becomes apparent to the eye, circular in form, having an elevated edge and depressed centre ; on the *eighth* day it appears distended with a clear lymph, is either pearl-coloured or slightly yellow, and is at its greatest perfection. On the evening of this day an *inflamed ring* begins to form round the base of the vesicle, which continues to increase during the two following days ; it is circular in form, and its diameter extends from one to three inches. It is at its height on the tenth day, when there is considerable hardness and swelling of the subjacent parts ; on the eleventh day it begins to fade, generally from the centre to the circumference, sometimes forming two or three concentric rings of a bluish tinge. After the tenth day the vesicle itself begins to decline, the centre first turns brown, and the whole is gradually converted into a hard round scab of a dark mahogany colour. About the twenty-first day this crust falls off, leaving a permanent circular cicatrix, somewhat depressed, and marked with six or eight minute pits. Such is the course of a true vaccine vesicle ; and if there be a shadow of a doubt that the vaccination is defective in any one of the above points, especially if the inflamed ring do not appear, the operation should be performed again.

Always suffer one or two of the vesicles at least to pursue their entire course untouched ; if there be mere

than two, then lymph may be taken from the supernumerary ones if required for vaccinating others.

Constitutional Symptoms and Management.—

Some children pass through the disorder without the slightest indication of constitutional disturbance, which is not to be looked upon as by any means essential to the success of the vaccine process. If constitutional symptoms do manifest themselves, it will be about the seventh or eighth day ; the infant will be restless and hot, and the bowels more or less disordered. It is not an uncommon circumstance to find about the tenth day an eruption showing itself on the extremities of the child, sometimes extending to the trunk of the body. It continues for three or four days ; occasionally until after the vaccine scab has fallen off. This eruption is chiefly met with in children of full habit, in whom numerous vesicles have been raised, which discharge freely.

Internal treatment is rarely required during vaccination, except now and then a mild aperient, such as a tea-spoonful of castor-oil ; febrile symptoms, however, sometimes manifest themselves, and then something ought to be done. The chief point to be attended to, is to protect the vesicles from irritation and friction. Sometimes even without either, the arm will become very much inflamed, and it may perchance extend down as far as the hand. In such cases envelop the arm, *above* and *below* the vesicle, in a piece of soft linen well soaked in lead lotion, or cold water, and let it be kept well wetted. To the vesicles themselves you may apply a bread-and-water poultice until the scab drops off, and then cold-cream until they are quite healed.

Re-vaccination.—It is now known that vaccina-

tion does not in all cases confer immunity from small-pox indefinitely, so that it becomes necessary after the lapse of a certain number of years to be re-vaccinated. Some authorities advise that a person be re-vaccinated every seven years ; others every twelve years. I think, as this is such a simple matter, that it ought to be done ; and *especially* so, if the vaccination marks have faded and become indistinct, or if there be any outbreak of small-pox ; or if the person be about to engage in any occupation which brings them in closer contact with any possible contagion, such as doctors, nurses, hospital servants, and the like.

A good vaccine cicatrix may be described as distinct, foveolated, dotted, or indented, in some instances radiated, and having a well, or tolerably well, defined edge.

An indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and ill-defined edge.

Constitutional Inaptitude.—Every effort to communicate the vaccine disease will now and then fail ; the child will not take the vaccination. When a case of this kind is met with, after a fair number of trials with fresh and active virus, the little patient should be left for a few months, in the hope that some change may take place in the system, and then another trial be instituted. Experience has long proved that the predisposition to receive cow-pox is not equally great in all persons, nor at all times ; and that in some individuals there exists through life an insusceptibility to the vaccine disease. The child of a weak and unhealthy constitution will not unfrequently be found indisposed to take the vaccination, but in this case the inaptitude is temporary ; whilst, on the other hand,

when this indisposition is met with in a healthy and robust condition of body, it will most probably last through life. Happily, however, experience has further shown that in most of these instances the individual is equally insusceptible of the small-pox disease.

CHAPTER XII.

MANAGEMENT DURING TEETHING.

THE infant at birth has no teeth visible ; the mouth is toothless. It possesses, however, hidden in the jaw, the rudiments of two sets ; the first of these to make their appearance are called the *temporary* or *milk-teeth* ; the second, the *permanent* or *adult-teeth*, and these come up as the former fall out, and so gradually replace them.

Sect. 1.—Management of the Infant during Teething.

The first set of teeth, or milk-teeth, as they are called, are twenty in number : they usually appear in pairs, and those of the lower jaw generally precede the corresponding ones of the upper. The first of the milk-teeth is generally cut about the sixth or seventh month, and the last of the set at various periods, from the twentieth to the thirtieth month. Thus the whole period occupied by the first dentition may be estimated at from a year and a half to two years. The process varies, however, in different individuals, both as to its whole duration and as to the periods and order in which the teeth make their appearance. It may be as

well to state that, as a rule, the teeth appear in the following order :—7th month, the central incisors ; 7th to 10th month, the anterior molars ; 11th to 20th month, the canine (eye) teeth ; and last of all, the posterior molars ; the lower teeth being generally a short time in advance of the upper ones. It is unnecessary, however, to add more upon this point.

Their development is a natural process. It is too frequently, however, rendered a painful and difficult one, by errors in the management of the regimen and health of the infant, previously to the coming of the teeth, and during the process itself. Thus, chiefly in consequence of injudicious management, it is made the most critical period of childhood. Not that I believe the extent of mortality fairly traceable to it is by any means so great as has been stated ; for it is rated as high as one-sixth of all the children who undergo it. Still, no one doubts that first dentition is frequently a period of great danger to the infant. It therefore becomes very important for the mother to know how the dangers and difficulties of teething can in any degree be diminished, or, if possible, altogether prevented. I shall consider, first, the management of the infant when teething is accomplished without difficulty ; and, secondly, the management of the infant when it is attended with difficulty.

1. The Management of the Infant when Teething is without Difficulty.—In the child of a healthy constitution, which has been properly, that is, naturally, fed, upon the milk of its mother alone, the *symptoms* attending teething will be of the mildest kind, and the management of the infant most simple and easy. There will be an increased flow of saliva, with swelling and heat of the gums, and occasionally flushing of the

cheeks. The child frequently thrusts its fingers, or anything within its grasp, into its mouth. Its thirst is increased, and it takes the breast more frequently, though, from the tender state of the gums, for shorter periods than usual. It is fretful and restless; and sudden fits of crying and occasional starting from sleep, with a slight tendency to vomiting, and even looseness of the bowels, are not uncommon. Many of these symptoms often precede the appearance of the tooth by several weeks, and indicate that what is called 'breeding the teeth' is going on. In such cases the symptoms disappear in a few days, to recur again when the tooth approaches the gum.

✓ The *treatment* of the infant in this case is very simple, and seldom calls for the interference of the medical attendant. The child ought to be much in the open air, and well exercised; the bowels should be kept freely open with castor-oil, and be always gently relaxed at this time. Cold sponging should be employed daily, and the surface of the body rubbed dry with as rough a flannel as the delicate skin of the child will bear, friction being very useful. The breast should be given often, but not for long at a time; the thirst will thus be allayed, the gums kept moist and relaxed, and their irritation soothed without the stomach being overloaded. The mother must also carefully attend, at this time, to *her* own health and diet, and avoid all stimulant food or drinks.

From the moment dentition begins, pressure on the gums will be found to be agreeable to the child, by numbing the sensibility and dulling the pain. For this purpose coral is usually employed, or a piece of orris-root, or scraped liquorice-root; a flat ivory ring, however is far safer and better, for there is no danger

of its being thrust into the eyes and nose. Gentle friction of the gums, also, by the finger of the nurse, is pleasing to the infant ; and, as it seems to have some effect in allaying irritation, may be frequently resorted to. In France, and in this country also, it is very much the practice to dip the liquorice-root, and other substances, into honey or powdered sugar-candy ; and in Germany a small bag, containing a mixture of sugar and spices, is given to the infant to suck whenever it is fretful and uneasy during teething. The constant use, however, of sweet and stimulating ingredients, must do injury to the stomach, and renders their employment very objectionable.

3. The Management of the Infant in difficult Teething.—In the child which has been partly or altogether brought up by hand, or who is of a feeble and delicate constitution, or imbued with any hereditary taint, the process of dentition will be attended with more or less difficulty, and not unfrequently with danger.

The *symptoms* of difficult dentition are of much more aggravated description than those which attend the former case ; and it is right that a mother should, to a certain extent, be acquainted with their character, that she may early request that medical aid which, if judiciously applied, will mitigate, and generally quickly remove them. There will be painful inflammation and swelling of the gum, which is hotter, of a deeper red than natural, and intolerant of the slightest pressure. There is often great determination of blood to the head, which a mother may recognise by the cheeks being red, hot, and swollen ; the eyes red, irritable, and watery ; and the saliva running from the mouth profusely. The fever is great, and the thirst extreme. The child is at one time restless and irritable, and at

another heavy and oppressed : the sleep will be broken, and the infant frequently awake suddenly and in alarm from its short slumbers. Such are the chief symptoms of difficult teething, and which will be present to a greater or less degree.

In reference to the *treatment* : as most of the above symptoms are induced by the painful tension of the gum, it would seem that the most rational mode of attempting their relief is by freely lancing the swollen part. Great prejudices, however, still exist in the minds of some parents against this operation. They think it gives great pain, and if the tooth is not very near, makes its coming through the gum subsequently the more difficult. With regard to the first objection, the lancet is carried through the gum so quickly, that this is hardly possible ; and the fact that the infant will often smile in your face after it is done, although previously crying from pain, is sufficient evidence that it is not a very painful operation. In reference to the second, that the scar which ensues opposes, by its hardness, the subsequent progress of the tooth, it is quite groundless ; for cicatrices, like all other new formed parts, are much more easily absorbed than the original structure. Of the practical utility and perfect safety of this operation we have ample proof in its daily performance with impunity, and in the instant relief which it often affords to all the symptoms. Mere scarifying the gums is sometimes all that is required, and will afford great relief. This operation, therefore, should not be opposed by the mother. She, at the same time, should be acquainted with its precise object, lest the speedy return of the symptoms, and the non-appearance of the expected tooth, might tend to bring the operation of lancing the gums into disrepute.

The parental management of the infant, then, and by which much of the pain and difficulty of teething may be removed or alleviated, consists in attending to the following directions :—

First, the State of the Mouth.—To this it is an important part of the mother's duty to pay especial attention ; and by so doing, she will save her child much suffering. The condition of the mouth should be carefully inspected from time to time ; and should a swollen gum be discovered, it should immediately be attended to, not waiting till constitutional symptoms appear before she employs proper aid for her child. For this purpose the mother should make herself familiar with the appearances of the gum under distension and inflammation ; a matter of no difficulty, accompanied, as this condition usually is, by a profuse secretion of saliva and heat of mouth, and occurring at a time when the age of the child justifies the supposition that it is about to cut its first tooth, or, if it have some teeth, that others are about to appear.

Secondly, the Food.—If a child is teething with difficulty, it should always have its quantity of nourishment diminished. If it is being fed, as well as nursed at the breast at the time, the former should immediately be withheld ; if it is being fed alone, the only kind of food that should be allowed is milk-and-water. These cases are much aggravated by the not uncommon habit of parents giving the infant food whenever it cries from the irritation attending upon the process ; and thus a slightly difficult dentition is converted into serious disease.

Thirdly, the State of the Bowels.—These must be carefully watched, that they may not become confined ; it being necessary that they should be gently

relaxed at this time. If a slight diarrhœa is present it must not be checked; if it pass beyond this, however, medicine must be had recourse to, and great benefit will also arise from putting the child into a warm *hip-bath*, and warmly clothing the body, but keeping the head cool.

Fourthly, the Head.—The infant's *head* should be freely sponged with cold water night and morning; this measure may be resorted to in every case without fear, and will invariably be attended with great benefit. Whether the child's *body* is to be sponged with cold or tepid water must depend upon the season of the year and constitution of the child, as well as upon other circumstances; now and then, for instance, the warm *hip-bath* will be ordered by the medical attendant to be employed for several consecutive days, which, by acting upon the skin, diminishes the determination of the blood to the head, and thus forms an important source of relief. No other *covering* than that which nature has provided should be put upon the head when within doors or asleep; and on no occasion should warm felt or velvet hats be worn during mild or warm weather, straw or white hats being much lighter and cooler. The child should be much in the open air.

Fifthly, Convulsions.—If they should occur—and they are not unfrequently excited by difficult teething, and then give great alarm to the parent—relief will be afforded by immersing the hips, legs, and feet of the infant in water as warm as can be borne, and at the same time applying over the head and temples a piece of flannel wet with cold water. I have also often cut the fit short by sprinkling cold water in the child's face while in the bath. The gums should always be looked to, and, if they appear swollen and painful, at once

lanced. I have known the most formidable convulsions to cease immediately after this operation. Indeed, if the mother be far away from medical aid, and convulsions are threatened, I see no reason why she should not herself at once lance the inflamed gum, but every reason why she should. Mr. Cline used to relate the case of a family in which, child after child, when they arrived at a certain age, died in convulsions from teething, until he taught the mother how to lance the gums, which she resorted to in future immediately a convulsive fit was threatened; and Cline adds, 'She never lost another, at least from this cause; for as soon as the symptoms of teething appeared, she looked for an inflamed gum, lanced it, and they ceased.' Place the fore-finger and thumb of the left hand on each side of the inflamed gum, then draw the edge of the gum lancet vertically along the top of it, making slight pressure, until the edge of the instrument is felt to grate upon the tooth—or, if this is not felt, until the upper part of the gum is freely lanced. If it be a double-tooth, a crucial incision must be made, that is to say, two incisions, one to cross the other.

Sixthly, the use of Opiates.—It is the practice with some nurses to administer narcotics to quiet infants while teething. It is not only objectionable, but, from the uncertain effects of sedatives upon infants, a very dangerous practice, and they ought never to be given except at the suggestion of a medical man.¹ It is far better, if the child is restless at night, to have it frequently taken out of its cot, and carried about in an airy room; for the cool air and change of posture will do much to allay the feverishness and restlessness of the child; and if sleeplessness should still continue,

¹ See p. 295.

sponge its face and hands, and refreshing sleep will often follow.

From these few hints it will, be seen how much the sufferings from teething may be mitigated by judicious management. If the parent is able to support her infant upon the breast alone, teething will be found comparatively an easy process, and unattended with danger; the mother thus reaping a delightful reward for all the anxieties and privations which nursing necessarily involves. The child brought up partially, or entirely, by hand will nearly always pass through dentition *with more or less pain and difficulty*; but even here, if the diet has been properly regulated, much less suffering and inconvenience will arise than when less attention has been paid to it. When teething is difficult, the importance of calling in proper aid at an early period, and of fully carrying out the directions of the medical attendant, must be apparent, and no foolish prejudices must be allowed to interfere with his prescriptions and management. If I stood in need of any argument to impress upon the mind of a parent the importance of this last injunction, I would simply state that its neglect is frequently the cause of disease of the brain, terminating in death, or a state of idiocy far worse than death, of which I know more than one instance.

It may be as well to add, that *eruptions* about the ears, head, face, and various parts of the body, very frequently appear during the process of the first teething. If they are slight they should be left alone, being rather useful than otherwise; if they are troublesome they must receive that kind of attention from the parent which is pointed out in the Chapter on Diseases. The same remark applies to enlargement of

the glands of the neck, which frequently appears at this time, and may occur too when there is an absence of all strumous taint. It is only necessary to make one further remark, that in some infants a rash always precedes the cutting a tooth. Sometimes it appears in the form of hard elevated pimples as large as peas ; in other instances in the form of red patches, of the size of a shilling, upon the arms, shoulders, and back of the neck. They are always harmless, require no particular attention, and prevent, I doubt not, more serious complaints.

The further management of children is treated of in the companion volume 'On the Maternal Management of Children,' to which we refer the reader.

INDEX.



- A**BDOMEN, soreness and cracking of the skin of, during pregnancy, 97
 — — subsidence of, before labour, 145
 Abscess in the breast, 210
 Abstinence, use of, in the flatulence and griping of infancy, 264
 After-birth, 167
 After-pains, 168
 Air, its importance to the nurse, 239
 — highly beneficial to the infant, 266, 281
 Animal food, its injurious effects upon the young child; and the period when it may be first given, 261
 Aperient liniment, 292
 — medicine, for the mother, during pregnancy, 28, 154
 — — — — — after labour, 170
 — — — — — infant after birth, 189
 — — — — — during infancy, 286
 Areola of the breast, as a sign of pregnancy, 62
 Arrow-root, 263
 Artificial feeding, causes rendering it necessary, 252
 — — the proper kind of artificial food before the first teeth appear, 252
 — — mode of preparing it, 253
 — — — — — administering it, 256
 — — quantity to be given, 257
 — — frequency of giving it, 257, 258
 — — posture of the infant when fed, 258
 — — proper kind after the first teeth have appeared, 259
 — — kind of artificial food most suitable under the different complaints to which infants are liable, 263
 Ass's milk, 253
 Atmosphere of the lying-in room, 173
 — — — nursery, 265 266

Atmosphere, a damp and humid state of it, injurious to the infant, 282
 Attendants in the lying-in room, 147

BACK, must not be too forcibly pressed during labour, 151
 Baked flour, 260

Bandage, the application of, after labour, 166, 179
 — to the legs and feet, when swollen, &c., during pregnancy, 89, 91

Bath, sitz or hip, 37, 118
 — shallow, 36
 — the shower, 36
 — — warm, 305

Bathing, during pregnancy, 35
 — — lying-in, 173

Bearing down, during pregnancy, 105
 — — in the early part of a labour a bad practice, 161
 — — when useful in labour, 165

Bed, its preparation for a labour, 154
 — not to be too much indulged in during labour, 161

Bedroom of a lying-in woman, 153

Beef-tea, how to be prepared for the child, 260

Belt sometimes useful during pregnancy, and its kind, 34, 98

Belly-band, 187

Bladder, torpidity of, during pregnancy, 100

— irritability of, during pregnancy, 101

— how sometimes affected during labour, 157

— caution about, subsequent to delivery, 170

Bleeding from the navel-string, 199

— — — — navel, 201

— — leech bites, how controlled, 300

Blisters for the infant, cautions, 301

Bottle, sucking, 256

Bowels of the mother, their management during pregnancy, 28

— — — — prior to delivery, 154

— — — — subsequent to labour, 170

— — — infant, their management immediately after birth, 189

— — — what the condition of its stools when in health, 286

— — — training of, 277

Breast of the mother, changes in, the result of pregnancy, 38, 60

— — — — painful and distended condition of, during pregnancy, 94

— — — — pressure upon, during pregnancy, injurious, 32, 38

- Breast of the mother after labour, management of, 173
- — — — inflammation of, after labour, 210
- — — — hardness of, after abscess, 217
- — — infant, swelling of, 196
- glass, for self use (*figure*), 213

CALOMEL, danger of, 293

— Caps for infants, 188, 280

Carminative, Dalby's, 297

Carrying of the infant, 282

Castor oil, 154, 287

Ceasing to be unwell, the dependence to be placed upon it as an evidence of pregnancy, 51

Chicken broth, how prepared for the child, 261

Child, violent movements of, during pregnancy, 96

— its movements sometimes not felt during pregnancy, 68

— directions for its management when born before the arrival of the medical man, 166

— directions for its management when still-born, 190

— after birth, washing of, 184

— putting up the navel-string, 187

— dressing, 187

— medicine, 189

— putting to the breast, 189

— of injuries received during its birth, 195

— retention of its urine and motions, 196

— swelling of its breasts, 196

— discharge from the eyes, 197

— hare-lip, 198

— bleeding from the navel-string, 199

— ulceration, or imperfect healing of its navel, 200

— bleeding from the navel, 201

— jaundice, 201

— tongue-tied, 202

— moles and marks on its skin, 202

Chloroform, 142

Choice of a monthly nurse, directions for, 147

— — — wet nurse, rules for, 244

Clark, Sir James, quoted, 20, 261

Cleanliness of the lying-in mother, 173

— and bathing of infant, 274

Climate in connection with miscarriage, 118

Clothing of infant, 278

Clysters, what kind best for infants, 291

— mode of application, 292

Cold, infants very susceptible of, 278

- Cold, infants very susceptible of, particularly during sleep, 272
 Compress, its use, 79
 Conception, its occurrence while nursing, 51
 Consumption and pregnancy, 19
 Convulsions, 241
 — during teething, 319
 — from opiates, 295
 Corsets, the proper kind for pregnancy, 33
 Costiveness, the source of many and serious evils during pregnancy, 28, 77
 — its treatment, 78
 — in infancy, its management, 263, 286
 Cow's milk, 254
 Cramp, in early part of labour, 157
 — and pains in the legs, and about the sides and lower part of the stomach during pregnancy, 95

- D**ALBY'S carminative, 297
 Damp induces disease in infants, 282
 Decoction of poppy heads, how made, 97, *note*
 Denman, Dr., the late, quoted, 142
 Densham's farinaceous food, 263
 Dentition, easy, 317
 — difficult, 319
 Dewees, Dr., quoted, 26
 Diarrhœa, during pregnancy, 81
 — in infancy, 263
 Diet, in the early months of pregnancy, 21
 — — — latter months of pregnancy, 22
 — during labour, 159
 — and management subsequent to labour, 180
 Digestion in the infant, 255
 Discharge after delivery, its management, 171
 — during pregnancy, 103
 — from the eyes of infant, 197
 Dover's powder, 297
 Drainage, 5
 Dress of the mother during pregnancy, 32
 — — — — labour, 155
 — — — — its management after delivery, 169
 — — — infant immediately after birth, 187
 — — — in infancy, rules for, 278

- E**BERLE, Dr., quoted, 25, 320
 Effeminacy, excessive, highly injurious during pregnancy, 31

- Enema for mother, during pregnancy, 79
 — — infants, 291
 — — — mode of giving it, 87, 292
 Enlargement of the veins of legs during pregnancy, 89
 Errors connected with pregnancy, 14, 17, 18, 32, 39, 40
 Eruptions, how avoided, 277
 Examination by medical attendant at the commencement of labour, its importance, 158
 Exercise, frequent and gentle, desirable for the first six or seven months of pregnancy, 27
 — during the last few weeks of pregnancy, 29, 31
 — for the infant, highly beneficial, 266
 External parts, irritation of, during pregnancy, 101
 Eyes of infant, discharge from, after birth, 197

- F** AINTING fits, during pregnancy, their treatment, 84
 False labour pains, 146
 — pregnancy, 58
 Feet and legs, swelling of, during pregnancy, 91
 Female syringes, the best kind, 104
 Filters, 10
 Flannel clothing, 278
 Flatulence and griping in infants, 263
 Fomenting with hot flannels, 174
 Food for infants, *See* Artificial feeding, 252
 — longings for, during pregnancy, 25
 Friction of the skin, 121, 275

- G** ODFREY'S cordial, 297
 Goulard's lotion, 102
 Grief, injurious to the mother's milk, 235
 Guarding the bed for labour, 154
 Gums, lancing of, 320

- H** ARD'S farinaceous food, 259, 263
 Hare-lip, how the infant is to be nourished with this defect, 198
 — — when the operation for its removal had better be performed, 199
 Head of the infant, swellings upon, when born, 195
 Headache during pregnancy, 107
 Heart, palpitation of, during pregnancy, 83
 Heartburn during pregnancy, 76
 Heat, animal, to be preserved in infancy, 186, 273

- Heat, excessive, prejudicial, 274
 Hereditary transmission of scrofula and consumption, the best
 preventative to, 19, 222
 Higginson's syphon for injections, *figured*, 104
 Hip or sitz-bath, 37, 118
 Hunter's, Dr., investigation of the supposed influence of the
 imagination of the mother upon the child in her womb,
 46

IMAGINATION of the mother, supposed influence of, upon the
 child in her womb, 43

- Inability to retain the urine during pregnancy, 101
 Infant, its management directly after its birth; washing, 184
 — putting up the navel-string, 187
 — dressing, 187
 — medicine, 189
 — putting to the breast, 189
 — still-born, 190
 — injuries received during the birth, 195
 — retention of urine and motions, 196
 — swelling of the breasts, 196
 — discharge from the eyes, 197
 — hare-lip, 198
 — bleeding from the navel-string, 199
 — ulceration, or imperfect healing of the navel, 200
 — bleeding from its navel, 201
 — jaundice, 201
 — tongue-tied, 202
 — moles and marks on its skin, 202
 — food for. *See* Artificial feeding, 252
 Inflammation of the breast of the mother, 210
 Inflation of the lungs of the infant, 193
 Injections into vagina, mode of applying, 104
 Irritability of the bladder during pregnancy, 101
 Irritation of the external parts during pregnancy, 102

JAUNDICE after birth, 201

- L**ABOUR, the mode of telling when it may be expected, 128
 — itself, and the use of chloroform, 142
 — symptoms of its approach, 145
 — of false pains which sometimes precede it, 146
 — before; what attendants necessary in the lying-in room, 147
 — — of the bedroom, 153

- Labour, before ; medicine necessary before the commencement of, 154
- during ; the preparation of the bed for, 154
 - — the dress of the patient, 155
 - — of shivering in the early part of, 156
 - — vomiting in the early part of, 156
 - — cramp in the early part of, 157
 - — the bladder in the early part of, 157
 - — examination of patient by medical man, 158
 - — diet, 159
 - — posture of the patient, 160
 - — probable duration of the, 162
 - — of its close, 165
 - — how to proceed if the child be born before the arrival of the medical man, 166
 - — of twins, 168
 - — of after pains, 168
 - after ; arrangement of patient's dress, 169
 - — caution about the bladder, 170
 - — medicine, 170
 - — the discharge, management of, 171
 - — — management of the breasts, 173
 - — visitors, 177
 - — the recumbent posture, 178
 - — — bandage, 179
 - — — diet and general management, 180
- Lavement, 80
- Leeches, application of, 299
- Legs, cramp and pain in, during pregnancy, 95
- enlargement of their veins during pregnancy, 89
 - and feet, swelling of, during pregnancy, 91
- Liniment, aperient, 292
- opiate and soap, 242
- Longings, 25
- Lungs of the infant, inflation of, 193
- Lying-in room, hints for, 153

MAGNESIA, 290

Manna, 289

Marriage, its influence upon delicate health, 19

Medicine, purgative, injurious effects of, 80

- aperient, during pregnancy, 79
- the proper kind before labour, 154
- for the infant after its birth, 189
- — infancy, 286

Mellin's Liebig's food, 259

Mental emotions of the mother during pregnancy, 40

- Mental emotions in labour, 148
- Mercury, 293
- Merriman, Dr., quoted, 26
- Milk, of its presence in the breast during pregnancy, 63
- — — — — without pregnancy, 64
- in a first confinement, rarely any secreted before the third day from delivery, 173
- the first secreted in the breast after delivery of an aperient quality, 190
- how to be preserved healthy during suckling, 232, 234
- deficiency of, 236
- uncontrollable flow of, during suckling, 209
- drying up, directly after delivery, 242
- — — at weaning, 243
- substitutes for, 252
- ass's, 253
- all kinds of, sometimes disagree with the infant, 255
- abscess, or bad breast, on the first coming of the milk, 211
- — — — at a later period, 214
- Miscarriage, the serious evils of, 30
- on its prevention, 111
- the period at which it most frequently occurs, 111
- its symptoms, 111
- the causes which may occasion it, 112
- — means to be adopted for its prevention, 115
- Moles on the skin, 46, 202
- Monthly nurse, 142
- periods, continuing sometimes during pregnancy, 51, 53
- — their management, 99
- Morning sickness, what dependence may be placed upon, as evidence of the pregnant state, 59
- — its treatment during the earlier months of pregnancy, 70
- — at the conclusion of pregnancy, 75
- Mothers, influence of their state during pregnancy upon the health of their children, 17, 20, 24, 31, 40
- their duty in relation to suckling, 219
- those who ought never to suckle their children, 222
- Motions of the infant, what the appearance of, and how frequent in health, 287
- Mutton-tea, how prepared for the child, 260

NAPKINS, the infant's, 277

— Navel, ulceration, or imperfect healing of, 200

— bleeding from, 201

Navel-string, the mode of putting up, 187

— — bleeding from, 199

- Nestlé's milk-food, 259
 Nipples of the mother, how to be drawn out when the breast is
 hard and swollen, 174
 — — — — management of, prior to delivery, 38
 — — — — soreness of, management of, 208
 — developer, *figured*, 206
 Nipple-shield, how managed, 205
 Nourishment, of the supposed necessity of an increased supply
 of, during pregnancy, 20
 Nursemaid, 269
 Nurse, monthly ; qualifications, 147, 148
 — wet, rules for the choice of, 244
 — — diet and management of, 247
 Nursery, the, 268
 Nursery medicines, 286
 Nursing, of conception taking place during, 52
 — maternal, the plan to be followed until the first teeth appear,
 227
 — — after the first teeth have appeared, 230
 — — the injurious effects to the mother of undue and pro-
 tracted suckling, 237
 — — injurious effects, &c., upon the infant, 238
 — — obstacles to, 221
 — the mother's management of her own health, 232

OPIATES, cautions respecting, 298

- P**AIN in the side during pregnancy, 106
 Palpitation of the heart during pregnancy, 83
 Paregoric elixir, 297
 Passion, its effects upon the mother's milk, 234
 Piles, connected with pregnancy, 87
 Popular errors connected with pregnancy, 14, 17, 32, 39, 40
 Position of the patient during labour, 160
 Posture, recumbent ; its importance after a miscarriage, 125
 — — — — — delivery, 178
 Pregnancy, being unwell during, 99
 — how its existence may be determined, 51
 — of ceasing to be unwell during, 51
 — its being accompanied by the monthly periods, 51, 99
 — the morning sickness, 59, 70
 — — changes in the breast, 60, 94
 — quickening, 66
 — its taking place whilst the mother is a nurse, 52
 — — occurrence late in life, 57

- Pregnancy, false or spurious, 56
- the diseases of, 70
- time of its duration, 127
- Purgative medicine for the mother, 77, 154, 170
- — — — child, 189, 290

QUICKENING, what dependence to be placed upon it as a
 sign of pregnancy, 66
 — period at which it takes place, 67
 — sometimes not experienced, 68

RECKONING, 127
 Requisites for the lying-in room, 153
 Retention of urine, in the mother, 157, 170
 — — — — — infant, 196
 Rhubarb, 289
 Rules for nursing, 226

SALIVATION, during pregnancy, 92
 Scrofula, 21
 Sea-bathing, 37
 Shallow-bath, 36
 Shivering in the early part of labour, 156
 Shower-bath, 36
 Sickness, morning, during the early months of pregnancy, 70
 — — — — — latter months of pregnancy, 75
 — in the early part of labour, 156
 Side, pain in, during pregnancy, 106
 Signs of pregnancy, 51
 Sitz or hip bath, 37, 118
 Size, inconvenience from, during pregnancy, 34, 98
 Skin of the abdomen, soreness and cracking of, during pregnancy,
 97
 — — — — infant, its perfect cleanliness, importance of, 274
 — the friction and sponging of it, beneficial, 275
 Sleep, its importance to the mother after labour, 166, 170
 — — — — — whilst a nurse, 232
 — of the infant, 272
 Soreness and cracking of the skin of the abdomen during preg-
 nancy, 104
 — of the nipples, 204, 207
 Spoon-feeding, 297
 Spray-producer (*figure*), 12
 Stays, the proper kind for pregnancy, 23

- Stays, injurious during labour, 156
 Still-born infant, treatment of the, 190
 Stimulants during pregnancy, 21
 — — lying-in and suckling, 160, 180
 Stocking, elastic, for swollen feet with enlarged veins, 91
 Stomach, cramp and pain in, during pregnancy, 95
 Straining or bearing down, injurious in the early part of labour,
 161
 — when useful, 164
 Sucking bottle, 256
 Suckling, plan of, 226
 Swelling of the breasts of infant after birth, 196
 — — — feet and legs during pregnancy, 92
 Syringe, female, the best kind, *figured*, 104
 Syrup of poppies, 296

TABLES for reckoning, 130

- Teeth, the manner in which the first set appear, 316
 Teething, easy management of, 317
 — difficult, hints upon, 319
 Temperature of the lying-in room, 153
 Tight lacing, during pregnancy, evils of, 32
 Tongue-tied, 202
 Tooth, of lancing the infant's, 320
 — removal of, during pregnancy, hazardous, 91
 Toothache, during pregnancy, 91
 Tops and bottoms, 259
 Twins, 168
 Typhoid fever, 13

ULCERATION, or imperfect healing of the navel of the infant, 200

- Unwell, never having appeared, and yet pregnancy taking place,
 52
 — its continuance during pregnancy, 55, 99
 Urine, inability to retain it during pregnancy, 101
 — constant inclination to pass, during labour, 157
 — inability to pass it, 101, 170
 — retention of, in the infant after birth, 96

VACCINATION, 309

- Vagina, discharge from, in the early months of pregnancy,
 103
 — — — — — latter months of pregnancy, 105

- Vagina, discharge from, during the whole period of pregnancy, 105
 — — — when pregnancy does not exist, 106
 Veal broth, how to be prepared for the child, 261
 Veins of the legs, enlargement of, during pregnancy, 89
 — definition of, 3
 Ventilation of the lying-in room, 153
 — of the nursery, 265
 Vomiting, during pregnancy, 59, 70
 — in the early parts of labour, 156

- W**ALKING, how to teach a child, 285
 Warm bath for the infant, 305
 — — directions for its use when the infant is still-born, 194
 Wandsbrough's metallic shield, *figured*, 205
 Washing of the infant after birth, 184
 — — — rules for, subsequently, 274
 Water supply, 9
 Water, temperature of, in washing the infant, 274
 Weaning, the time when it ought to take place, 240
 — mode of effecting it, 241
 Wet nurses, rules for the choice of, 244
 — — diet and management of, 247
 Whites during pregnancy, 103
 Wine, 23, 160, 182

By the same Author.

THE MATERNAL MANAGEMENT of
CHILDREN in HEALTH and DISEASE. Thirteenth Edition, thoroughly revised. Edited by ROBERT W. PARKER, M.R.C.S. Eng., Surgical Registrar (formerly House-Surgeon &c.) at the London Hospital; late Resident Medical Officer, Hospital for Sick Children. Fcp. 8vo. price 2s. 6d. cloth.

GENERAL LIST OF WORKS

PUBLISHED BY

Messrs. LONGMANS, GREEN, and CO.

PATERNOSTER ROW, LONDON.



History, Politics, Historical Memoirs, &c.

A HISTORY of ENGLAND from the CONCLUSION of the GREAT WAR in 1815. By SPENCER WALPOLE, Author of 'The Life of the Right Hon. Spencer Percival.' Vols. I. and II. 8vo. [In preparation.]

The HISTORY of ENGLAND from the Fall of Wolsey to the Defeat of the Spanish Armada. By JAMES ANTHONY FROUDE, M.A. late Fellow of Exeter College, Oxford.

LIBRARY EDITION, Twelve Volumes, 8vo. price £8. 18s.

CABINET EDITION, Twelve Volumes, crown 8vo. price 72s.

The ENGLISH in IRELAND in the EIGHTEENTH CENTURY. By JAMES ANTHONY FROUDE, M.A. late Fellow of Exeter College, Oxford. 3 vols. 8vo. price 48s.

The HISTORY of ENGLAND from the Accession of James the Second. By Lord MACAULAY.

STUDENT'S EDITION, 2 vols. crown 8vo. 12s.

PEOPLE'S EDITION, 4 vols. crown 8vo. 16s.

CABINET EDITION, 8 vols. post 8vo. 48s.

LIBRARY EDITION, 5 vols. 8vo. £4.

LORD MACAULAY'S WORKS. Complete and Uniform Library Edition. Edited by his Sister, Lady TREVELYAN. 8 vols. 8vo. with Portrait, price £5. 5s. cloth, or £8. 8s. bound in tree-calf by Rivière.

On PARLIAMENTARY GOVERNMENT in ENGLAND; its Origin, Development, and Practical Operation. By ALPHEUS TODD, Librarian of the Legislative Assembly of Canada. 2 vols. 8vo. price £1. 17s.

The CONSTITUTIONAL HISTORY of ENGLAND, since the Accession of George III. 1760—1860. By Sir THOMAS ERSKINE MAY, K.C.B. D.C.L. The Fifth Edition, thoroughly revised. 3 vols. crown 8vo. price 18s.

DEMOCRACY in EUROPE; a History. By Sir THOMAS ERSKINE MAY, K.C.B. D.C.L. 2 vols. 8vo. [In the press.]

JOURNAL of the REIGNS of KING GEORGE IV. and KING WILLIAM IV. By the late CHARLES C. F. GREVILLE, Esq. Edited by HENRY REEVE, Esq. Fifth Edition. 3 vols. 8vo. 36s.

- The OXFORD REFORMERS** — John Colet, Erasmus, and Thomas More; being a History of their Fellow-work. By FREDERIC SEEBOHM. Second Edition, enlarged. 8vo. 14s.
- LECTURES on the HISTORY of ENGLAND**, from the Earliest Times to the Death of King Edward II. By WILLIAM LONGMAN, F.S.A. With Maps and Illustrations. 8vo. 15s.
- The HISTORY of the LIFE and TIMES of EDWARD the THIRD.** By WILLIAM LONGMAN, F.S.A. With 9 Maps, 8 Plates, and 16 Woodcuts. 2 vols. 8vo. 28s.
- INTRODUCTORY LECTURES on MODERN HISTORY.** By THOMAS ARNOLD, D.D. 8vo. price 7s. 6d.
- WATERLOO LECTURES**; a Study of the Campaign of 1815. By Colonel CHARLES C. CHESNEY, R.E. Third Edition. 8vo. with Map, 10s. 6d.
- The LIFE of SIMON DE MONTFORT, EARL of LEICESTER**, with special reference to the Parliamentary History of his time. By GEORGE WALTER PROTHERO, M.A. With 2 Maps. Crown 8vo. 9s.
- HISTORY of ENGLAND under the DUKE of BUCKINGHAM and CHARLES the FIRST, 1624-1628.** By SAMUEL RAWSON GARDINER, late Student of Ch. Ch. 2 vols. 8vo. with Two Maps, price 24s.
- The PERSONAL GOVERNMENT of CHARLES I.** from the Death of Buckingham to the Declaration of the Judges in favour of Ship Money, 1628-1637. By S. R. GARDINER, late Student of Ch. Ch. 2 vols. 8vo. price 24s.
- The SIXTH ORIENTAL MONARCHY**; or, the Geography, History, and Antiquities of PARTHIA. By GEORGE RAWLINSON, M.A. Professor of Ancient History in the University of Oxford. Maps and Illustrations. 8vo. 16s.
- The SEVENTH GREAT ORIENTAL MONARCHY**; or, a History of the SASSANIANS: with Notices, Geographical and Antiquarian. By G. RAWLINSON, M.A. Map and numerous Illustrations. 8vo. price 28s.
- ISLAM under the ARABS.** By ROBERT DURIE OSBORN, Major in the Bengal Staff Corps. 8vo. 12s.
- A HISTORY of GREECE.** By the Rev. GEORGE W. COX, M.A. late Scholar of Trinity College, Oxford. VOLS. I. & II. (to the Close of the Peloponnesian War). 8vo. with Maps and Plans, 36s.
- GENERAL HISTORY of GREECE** to the Death of Alexander the Great; with a Sketch of the Subsequent History to the Present Time. By GEORGE W. COX, M.A. With 11 Maps. Crown 8vo. 7s. 6d.
- The HISTORY of ROME.** By WILLIAM IHNE. Translated by the Author. VOLS. I. to III. 8vo. price 45s.
- GENERAL HISTORY OF ROME** from the Foundation of the City to the Fall of Augustulus, B.C. 753—A.D. 476. By the Very Rev. C. MERIVALE, D.D. Dean of Ely. With Five Maps. Crown 8vo. 7s. 6d.
- HISTORY of the ROMANS under the EMPIRE.** By the Very Rev. C. MERIVALE, D.D. Dean of Ely. 8 vols. post 8vo. 48s.
- The FALL of the ROMAN REPUBLIC**; a Short History of the Last Century of the Commonwealth. By the same Author. 12mo. 7s. 6d.
- The STUDENT'S MANUAL of the HISTORY of INDIA**, from the Earliest Period to the Present. By Colonel MEADOWS TAYLOR, M.R.A.S. M.R.I.A. Second Thousand. Crown 8vo. with Maps, 7s. 6d.

INDIAN POLITY; a View of the System of Administration in India.
By Lieutenant-Colonel GEORGE CHESNEY, Fellow of the University of Calcutta.
8vo. with Map, 21s.

The HISTORY of PRUSSIA, from the Earliest Times to the Present Day; tracing the Origin and Development of her Military Organisation. By Captain W. J. WYATT. Vols. I. and II. A.D. 700 to A.D. 1525. 8vo. 36s.

The CHILDHOOD of the ENGLISH NATION; or, the Beginnings of English History. By ELLA S. ARMITAGE. Fcp. 8vo. 2s. 6d.

POPULAR HISTORY of FRANCE, from the Earliest Times to the Death of Louis XIV. By ELIZABETH M. SEWELL, Author of 'Amy Herbert' &c. With 8 Coloured Maps. Crown 8vo. 7s. 6d.

LORD MACAULAY'S CRITICAL and HISTORICAL ESSAYS. CHEAP EDITION, authorised and complete. Crown 8vo. 3s. 6d.

CABINET EDITION, 4 vols. post 8vo. 24s. | LIBRARY EDITION, 3 vols. 8vo. 36s.

PEOPLE'S EDITION, 2 vols. crown 8vo. 8s. | STUDENT'S EDITION, 1 vol. cr. 8vo. 6s.

HISTORY of EUROPEAN MORALS, from Augustus to Charlemagne, By W. E. H. LECKY, M.A. Third Edition. 2 vols. crown 8vo. price 16s.

HISTORY of the RISE and INFLUENCE of the SPIRIT of RATIONALISM in EUROPE. By W. E. H. LECKY, M.A. Fourth Edition. 2 vols. crown 8vo. price 16s.

HISTORY of the MONGOLS from the Ninth to the Nineteenth Century. By HENRY H. HOWORTH, F.S.A. VOL. I. *the Mongols Proper and the Kalmuks*; with Two Coloured Maps. Royal 8vo. 28s.

The HISTORY of PHILOSOPHY, from Thales to Comte. By GEORGE HENRY LEWES. Fourth Edition. 2 vols. 8vo. 32s.

The MYTHOLOGY of the ARYAN NATIONS. By GEORGE W. COX, M.A. late Scholar of Trinity College, Oxford, 2 vols. 8vo. 28s.

TALES of ANCIENT GREECE. By GEORGE W. COX, M.A. late Scholar of Trinity College, Oxford. Third Edition. Crown 8vo. price 6s.

HISTORY of CIVILISATION in England and France, Spain and Scotland. By HENRY THOMAS BUCKLE. Latest Edition of the entire Work, with a complete INDEX. 3 vols. crown 8vo. 24s.

SKETCH of the HISTORY of the CHURCH of ENGLAND to the Revolution of 1688. By the Right Rev. T. V. SHORT, D.D. sometime Bishop of St. Asaph. Eighth Edition. Crown 8vo. 7s. 6d.

EPOCHS of ANCIENT HISTORY. Edited by the Rev. G. W. Cox, M.A. and jointly by C. SANKEY, M.A. Ten Volumes, each complete in itself, in fcp. 8vo. with Maps and Indices:—

BEESLY'S Gracchi, Marius, and Sulla, 2s. 6d.

CAPE'S Age of the Antonines, 2s. 6d.

——— Early Roman Empire, 2s. 6d.

COX'S Athenian Empire, 2s. 6d.

——— Greeks and Persians, 2s. 6d.

CURTEIS'S Rise of the Macedonian Empire, 2s. 6d.

IHNE'S Rome to its Capture by the Gauls, 2s. 6d.

MERIVALE'S Roman Triumvirates, 2s. 6d.

SANKEY'S Spartan and Theban Supremacies, 2s. 6d.

SMITH'S Rome and Carthage, the Punic Wars. [*In the press.*]

EPOCHS of MODERN HISTORY. Edited by E. E. MORRIS, M.A.
J. S. PHILLPORTS, B.C.L. and C. COLBECK, M.A. Eleven volumes now published,
each complete in itself, in fcp. 8vo. with Maps and Index :—

CORDERY'S French Revolution to the Battle of Waterloo, 1789-1815.
[*In the press.*]

COX'S Crusades, 2s. 6d.

CREIGHTON'S Age of Elizabeth, 2s. 6d.

GAIRDNER'S Houses of Lancaster and York, 2s. 6d.

GARDINER'S Puritan Revolution, 2s. 6d.

————— Thirty Years' War, 2s. 6d.

HALE'S Fall of the Stuarts, 2s. 6d.

LAWRENCE'S Early Hanoverians. [*In the press.*]

LONGMAN'S Frederick the Great and the Seven Years' War.

————— [*In preparation.*]

LUDLOW'S War of American Independence, 2s. 6d.

MORRIS'S Age of Queen Anne, 2s. 6d.

SEEBOHM'S Protestant Revolution, 2s. 6d.

STUBBS'S Early Plantagenets, 2s. 6d.

————— Empire under the House of Hohenstaufen.

————— [*In preparation.*]

WARBURTON'S Edward III. 2s. 6d.

REALITIES of IRISH LIFE. By W. STEUART TRENCH, late Land
Agent in Ireland to the Marquess of Lansdowne, the Marquess of Bath, and
Lord Digby. Cheaper Edition. Crown 8vo. price 2s. 6d.

CATES' and WOODWARD'S ENCYCLOPÆDIA of CHRONOLOGY,
HISTORICAL and BIOGRAPHICAL. 8vo. price 42s.

Biographical Works.

MEMORIALS of CHARLOTTE WILLIAMS-WYNN. Edited by her
SISTER. Crown 8vo. with Portrait, price 10s. 6d.

The LIFE and LETTERS of LORD MACAULAY. By his Nephew,
G. OTTO TREVELYAN, M.P. Second Edition, with Additions and Corrections.
2 vols. 8vo. with Portrait, price 36s.

The LIFE of SIR WILLIAM FAIRBAIRN, Bart. F.R.S. Corresponding Member of the National Institute of France, &c. Partly written by
himself; edited and completed by WILLIAM POLE, F.R.S. 8vo. Portrait, 18s.

GOTTHOLD EPHRAIM LESSING, his LIFE and his WORKS. By
ZIMMERN. 1 vol. crown 8vo. [*In the press.*]

ARTHUR SCHOPENHAUER, his LIFE and his PHILOSOPHY.
By HELEN ZIMMERN. Post 8vo. with Portrait, 7s. 6d.

The LIFE of MOZART. Translated from the German Work of Dr.
LUDWIG NOHL by Lady WALLACE. With Portraits of Mozart and his Sister.
2 vols. crown 8vo. 21s.

FELIX MENDELSSOHN'S LETTERS from ITALY and SWITZERLAND,
and Letters from 1833 to 1847. Translated by Lady WALLACE. With
Portrait, 2 vols. crown 8vo. 5s. each.

The LIFE of ROBERT FRAMPTON, D.D. Bishop of Gloucester,
deprived as a Non-Juror in 1689. Edited by T. SIMPSON EVANS, M.A. Vicar of
Shoreditch. Crown 8vo. Portrait, 10s. 6d.

AUTOBIOGRAPHY. By JOHN STUART MILL. 8vo. price 7s. 6d.

The LIFE of NAPOLEON III. derived from State Records, Unpublished Family Correspondence, and Personal Testimony. By BLANCHARD JERROLD. 4 vols. 8vo. with numerous Portraits and Facsimiles. VOLS. I. to III. price 18s. each. The Fourth Volume is in the press.

ESSAYS in MODERN MILITARY BIOGRAPHY. By CHARLES CORNWALLIS CHESNEY, Lieutenant-Colonel in the Royal Engineers. 8vo. 12s. 6d.

The MEMOIRS of SIR JOHN RERESBY, of Thrybergh, Bart. M.P. for York, &c. 1634—1689. Written by Himself. Edited from the Original Manuscript by JAMES J. CARTWRIGHT, M.A. 8vo. price 21s.

ISAAC CASAUBON, 1559—1614. By MARK PATTISON, Rector of Lincoln College, Oxford. 8vo. 18s.

LEADERS of PUBLIC OPINION in IRELAND; Swift, Flood, Grattan, and O'Connell. By W. E. H. LECKY, M.A. New Edition, revised and enlarged. Crown 8vo. price 7s. 6d.

DICTIONARY of GENERAL BIOGRAPHY; containing Concise Memoirs and Notices of the most Eminent Persons of all Countries, from the Earliest Ages. By W. L. R. CATES. Medium 8vo. price 25s.

LIFE of the DUKE of WELLINGTON. By the Rev. G. R. GLEIG, M.A. Popular Edition, carefully revised; with copious Additions. Crown 8vo. with Portrait, 5s.

MEMOIRS of SIR HENRY HAVELOCK, K.C.B. By JOHN CLARK MARSHMAN. Cabinet Edition, with Portrait. Crown 8vo. price 3s. 6d.

VICISSITUDES of FAMILIES. By Sir J. BERNARD BURKE, C.B. Ulster King of Arms. New Edition, enlarged. 2 vols. crown 8vo. 21s.

ESSAYS in ECCLESIASTICAL BIOGRAPHY. By the Right Hon. Sir J. STEPHEN, LL.D. Cabinet Edition. Crown 8vo. 7s. 6d.

LETTERS and LIFE of FRANCIS BACON, including all his Occasional Works. Collected and edited, with a Commentary, by J. SPEDDING, Trin. Coll. Cantab. Complete in 7 vols. 8vo. £4. 4s.

The LIFE, WORKS, and OPINIONS of HEINRICH HEINE. By WILLIAM STIGAND. 2 vols. 8vo. with Portrait of Heine, price 28s.

BIOGRAPHICAL and CRITICAL ESSAYS, reprinted from Reviews, with Additions and Corrections. Second Edition of the Second Series. By A. HAYWARD, Q.C. 2 vols. 8vo. price 28s. THIRD SERIES, in 1 vol. 8vo. price 14s.

Criticism, Philosophy, Polity, &c.

The LAW of NATIONS considered as INDEPENDENT POLITICAL COMMUNITIES; the Rights and Duties of Nations in Time of War. By Sir TRAVERS TWISS, D.C.L., F.R.S. Second Edition, revised. 8vo. 21s.

CHURCH and STATE: their relations Historically Developed. By T. HEINRICH GEFFCKEN, Professor of International Law in the University of Strasburg. Translated and edited with the Author's assistance by E. FAIRFAX TAYLOR. 2 vols. 8vo. 42s.

The INSTITUTES of JUSTINIAN; with English Introduction, Translation and Notes. By T. C. SANDARS, M.A. Sixth Edition. 8vo. 18s.

- A SYSTEMATIC VIEW of the SCIENCE of JURISPRUDENCE.**
By SHELDON AMOS, M.A. Professor of Jurisprudence to the Inns of Court, London. 8vo. price 18s.
- A PRIMER of the ENGLISH CONSTITUTION and GOVERNMENT.**
By SHELDON AMOS, M.A. Professor of Jurisprudence to the Inns of Court. Second Edition, revised. Crown 8vo. 6s.
- A SKETCH of the HISTORY of TAXES in ENGLAND from the Earliest Times to the Present Day.** By STEPHEN DOWELL. Vol. I. to the Civil War 1642. 8vo. 10s. 6d.
- OUTLINES of CIVIL PROCEDURE.** Being a General View of the Supreme Court of Judicature and of the whole Practice in the Common Law and Chancery Divisions under all the Statutes now in force. By EDWARD STANLEY ROSCOE, Barrister-at-Law. 12mo. price 3s. 6d.
- Our NEW JUDICIAL SYSTEM and CIVIL PROCEDURE,** as Reconstructed under the Judicature Acts, including the Act of 1876; with Comments on their Effect and Operation. By W. F. FINLASON. Crown 8vo. 10s. 6d.
- SOCRATES and the SOCRATIC SCHOOLS.** Translated from the German of Dr. E. ZELLER, with the Author's approval, by the Rev. OSWALD J. REICHEL, M.A. Second Edition, enlarged from the Author's materials. Crown 8vo. 10s. 6d.
- The STOICS, EPICUREANS, and SCEPTICS.** Translated from the German of Dr. E. ZELLER, with the Author's approval, by OSWALD J. REICHEL, M.A. Crown 8vo. price 14s.
- PLATO and the OLDER ACADEMY.** Translated from the German of Dr. EDUARD ZELLER by S. FRANCES ALLEYNE and ALFRED GOODWIN, B.A. Fellow of Balliol College, Oxford. Crown 8vo. 18s.
- The ETHICS of ARISTOTLE,** with Essays and Notes. By Sir A. GRANT, Bart. M.A. LL.D. Third Edition. 2 vols. 8vo. 32s.
- The POLITICS of ARISTOTLE;** Greek Text, with English Notes. By RICHARD CONGREVE, M.A. 8vo. 18s.
- ARISTOTLE'S POLITICS.** Books I. III. IV. (VII.) The Greek Text of Bekker, with an English Translation by W. E. BOLLAND, M.A. and Short Introductory Essays by A. LANG, M.A. Crown 8vo. 7s. 6d.
- The NICOMACHEAN ETHICS of ARISTOTLE** newly translated into English. By R. WILLIAMS, B.A. Second Edition. Crown 8vo. 7s. 6d.
- ELEMENTS of LOGIC.** By R. WHATELY, D.D. sometime Archbishop of Dublin. 8vo. 10s. 6d. Crown 8vo. 4s. 6d.
- ELEMENTS of RHETORIC.** By R. WHATELY, D.D. sometime Archbishop of Dublin. 8vo. 10s. 6d. Crown 8vo. 4s. 6d.
- LOGIC, DEDUCTIVE and INDUCTIVE.** By ALEXANDER BAIN, LL.D. In Two PARTS, crown 8vo. 10s. 6d. Each Part may be had separately:—
PART I. *Deduction*, 4s. PART II. *Induction*, 6s. 6d.
- PICTURE LOGIC.** By A. SWINBOURNE, B.A. With Woodcut Illustrations from Drawings by the Author. Second Edition. Fcp. 8vo. price 5s.
- DEMOCRACY in AMERICA.** By ALEXIS DE TOCQUEVILLE. Translated by HENRY REEVE, Esq. 2 vols. crown 8vo. 16s.
- On the INFLUENCE of AUTHORITY in MATTERS of OPINION.** By the late Sir GEORGE CORNEWALL LEWIS, Bart. 8vo. 14s.

COMTE'S SYSTEM of POSITIVE POLITY, or TREATISE upon SOCIOLOGY. Translated from the Paris Edition of 1851-1854, and furnished with Analytical Tables of Contents. In Four Volumes, 8vo. each forming in some degree an independent Treatise :—

VOL. I. General View of Positivism and its Introductory Principles. Translated by J. H. BRIDGES, M.B. Price 21s.

VOL. II. The Social Statics, or the Abstract Laws of Human Order. Translated by F. HARRISON, M.A. Price 14s.

VOL. III. The Social Dynamics, or the General Laws of Human Progress (the Philosophy of History). Translated by Professor E. S. BEESLY, M.A. Price 21s.

VOL. IV. The Theory of the Future of Man; together with COMTE'S Early Essays on Social Philosophy. Translated by R. CONGREVE, M.D. and H. D. HUTTON, B.A. Price 24s.

BACON'S ESSAYS with ANNOTATIONS. By R. WHATELY, D.D. late Archbishop of Dublin. Fourth Edition. 8vo. price 10s. 6d.

LORD BACON'S WORKS, collected and edited by J. SPEDDING, M.A. R. L. ELLIS, M.A. and D. D. HEATH. 7 vols. 8vo. price £3. 13s. 6d.

On REPRESENTATIVE GOVERNMENT. By JOHN STUART MILL. Crown 8vo. price 2s.

On LIBERTY. By JOHN STUART MILL. Post 8vo. 7s. 6d. Crown 8vo. price 1s. 4d.

PRINCIPLES of POLITICAL ECONOMY. By JOHN STUART MILL. 2 vols. 8vo. 30s. Or in 1 vol. crown 8vo. price 5s.

ESSAYS on SOME UNSETTLED QUESTIONS of POLITICAL ECONOMY. By JOHN STUART MILL. 8vo. 6s. 6d.

UTILITARIANISM. By JOHN STUART MILL. 8vo. 5s.

DISSERTATIONS and DISCUSSIONS, Political, Philosophical & Historical. By JOHN STUART MILL. 4 vols. 8vo. price £2. 6s. 6d.

EXAMINATION of Sir. W. HAMILTON'S PHILOSOPHY, and of the Principal Philosophical Questions discussed in his Writings. By JOHN STUART MILL. 8vo. 16s.

A SYSTEM of LOGIC, RATIOCINATIVE and INDUCTIVE. By JOHN STUART MILL. Two vols. 8vo. 25s.

An OUTLINE of the NECESSARY LAWS of THOUGHT; a Treatise on Pure and Applied Logic. By the Most Rev. W. THOMSON, Lord Archbishop of York, D.D. F.R.S. Crown 8vo. price 6s.

PRINCIPLES of ECONOMICAL PHILOSOPHY. By HENRY DUNNING MACLEOD, M.A. Barrister-at-Law. Second Edition. In Two Volumes. VOL. I. 8vo. price 15s. VOL. II. PART I. price 12s. VOL. II. PART II. *just ready.*

SPEECHES of the RIGHT HON. LORD MACAULAY, corrected by Himself. Crown 8vo. 3s. 6d.

FAMILIES of SPEECH; Four Lectures delivered before the Royal Institution. By the Rev. Canon FARRAR, D.D. F.R.S. Crown 8vo. 3s. 6d.

CHAPTERS on LANGUAGE. By the Rev. Canon FARRAR, D.D. F.R.S. Crown 8vo. 5s.

HANDBOOK of the ENGLISH LANGUAGE. For the use of Students of the Universities and the Higher Classes in Schools. By R. G. LATHAM, M.A. M.D. Crown 8vo. price 6s.

DICTIONARY of the ENGLISH LANGUAGE. By R. G. LATHAM, M.A. M.D. Abridged from Dr. Latham's Edition of Johnson's English Dictionary, and condensed into One Volume. Medium 8vo. price 24s.

A DICTIONARY of the ENGLISH LANGUAGE. By R. G. LATHAM, M.A. M.D. Founded on the Dictionary of Dr. SAMUEL JOHNSON, as edited by the Rev. H. J. TODD, with numerous Emendations and Additions. In Four Volumes, 4to. price £7.

ENGLISH SYNONYMES. By E. JANE WHATELY. Edited by Archbishop WHATELY. Fifth Edition. Fcp. 8vo. price 3s.

THESAURUS of ENGLISH WORDS and PHRASES, classified and arranged so as to facilitate the Expression of Ideas, and assist in Literary Composition. By P. M. ROGET, M.D. Crown 8vo. 10s. 6d.

LECTURES on the SCIENCE of LANGUAGE. By F. MAX MÜLLER, M.A. &c. Ninth Edition. 2 vols. crown 8vo. 16s.

MANUAL of ENGLISH LITERATURE, Historical and Critical. By THOMAS ARNOLD, M.A. Crown 8vo. 7s. 6d.

HISTORICAL and CRITICAL COMMENTARY on the OLD TESTAMENT; with a New Translation. By M. M. KALISCH, Ph.D. VOL. I. *Genesis*, 8vo. 18s. or adapted for the General Reader, 12s. VOL. II. *Exodus*, 15s. or adapted for the General Reader, 12s. VOL. III. *Leviticus*, PART I. 15s. or adapted for the General Reader, 8s. VOL. IV. *Leviticus*, PART II. 15s. or adapted for the General Reader, 8s.

The CRITICAL LEXICON and CONCORDANCE to the ENGLISH and GREEK NEW TESTAMENT; together with an Index of Greek Words and several Appendices. By the Rev. E. W. BULLINGER, St. Stephen's, Valthamstow. Medium 8vo. 30s.

A DICTIONARY of ROMAN and GREEK ANTIQUITIES, with about Two Thousand Engravings on Wood from Ancient Originals, illustrative of the Industrial Arts and Social Life of the Greeks and Romans. By A. RICH, B.A. Third Edition, revised and improved. Crown 8vo. price 7s. 6d.

A LATIN-ENGLISH DICTIONARY. By JOHN T. WHITE, D.D. Oxon. and J. E. RIDDLE, M.A. Oxon. 1 vol. 4to. 28s.

WHITE'S COLLEGE LATIN-ENGLISH DICTIONARY (Intermediate Size), abridged for the use of University Students from the Parent Work (as above). Medium 8vo. 15s.

WHITE'S JUNIOR STUDENT'S COMPLETE LATIN-ENGLISH and ENGLISH-LATIN DICTIONARY. Square 12mo. price 12s.

Separately { The ENGLISH-LATIN DICTIONARY, price 5s. 6d.
The LATIN-ENGLISH DICTIONARY, price 7s. 6d.

A LATIN-ENGLISH DICTIONARY, adapted for the Use of Middle-Class Schools. By JOHN T. WHITE, D.D. Oxon. Square fcp. 8vo. price 3s.

An ENGLISH-GREEK LEXICON, containing all the Greek Words used by Writers of good authority. By C. D. YONGE, M.A. 4to. price 21s.

Mr. YONGE'S NEW LEXICON, English and Greek, abridged from his larger work (as above). Square 12mo. price 8s. 6d.

LIDDELL and SCOTT'S GREEK-ENGLISH LEXICON. Sixth Edition. Crown 4to. price 36s.

A LEXICON, GREEK and ENGLISH, abridged from LIDDELL and SCOTT'S *Greek-English Lexicon*. Fourteenth Edition. Square 12mo. 7s. 6d.

A PRACTICAL DICTIONARY of the FRENCH and ENGLISH LANGUAGES. By L. CONTANSEAU. Post 8vo. 7s. 6d.

CONTANSEAU'S POCKET DICTIONARY, French and English, abridged from the above by the Author. Square 18mo. 3s. 6d.

A NEW POCKET DICTIONARY of the GERMAN and ENGLISH LANGUAGES. By F. W. LONGMAN, Balliol College, Oxford. 18mo. 5s.

NEW PRACTICAL DICTIONARY of the GERMAN LANGUAGE; German-English and English-German. By the Rev. W. L. BLACKLEY, M.A. and Dr. CARL MARTIN FRIEDLÄNDER. Post 8vo. 7s. 6d.

Miscellaneous Works and Popular Metaphysics.

The LONDON SERIES of ENGLISH CLASSICS. Edited by JOHN W. HALES, M.A. and by CHARLES S. JERRAM, M.A. Fcp. 8vo. in course of publication:—

Bacon's Essays, annotated by E. A. ABBOTT, D.D. 2 vols. 6s.

Macaulay's Clive, by H. C. BOWEN, M.A. 2s. 6d.

Marlowe's Doctor Faustus, by W. WAGNER, Ph.D. 2s.

Milton's Paradise Regained, by C. S. JERRAM, M.A. 2s. 6d.

Pope's Select Poems, by T. ARNOLD, M.A. 2s. 6d.

*** To be followed by other Works.

MESMERISM, SPIRITUALISM, &c. Historically and Scientifically Considered. By W. B. CARPENTER, C.B. M.D. LL.D. F.R.S. &c. Second Edition. Crown 8vo. 5s.

EVENINGS with the SKEPTICS; or, Free Discussion on Free Thinkers. By the Rev. JOHN OWEN, Rector of East Anstey, Devon. Crown 8vo. *[Just ready.]*

GERMAN HOME LIFE. Reprinted, with Revision and Additions, from *Fraser's Magazine*. Third Edition. Crown 8vo. 6s.

The MISCELLANEOUS WORKS of THOMAS ARNOLD, D.D. Late Head Master of Rugby School. 8vo. 7s. 6d.

MISCELLANEOUS and POSTHUMOUS WORKS of the Late HENRY THOMAS BUCKLE. Edited, with a Biographical Notice, by HELEN TAYLOR. 3 vols. 8vo. price 52s. 6d.

MISCELLANEOUS WRITINGS of JOHN CONINGTON, M.A. late Corpus Professor of Latin in the University of Oxford. Edited by J. A. SYMONDS, M.A. With a Memoir by H. J. S. SMITH, M.A. 2 vols. 8vo. 28s.

ESSAYS, CRITICAL and BIOGRAPHICAL. Contributed to the *Edinburgh Review*. By HENRY ROGERS. 2 vols. crown 8vo. price 12s.

ESSAYS on some THEOLOGICAL CONTROVERSIES of the TIME, chiefly from the *Edinburgh Review*. By HENRY ROGERS. Crown 8vo. 6s.

SHORT STUDIES on GREAT SUBJECTS. By JAMES ANTHONY FROUDE, M.A. late Fellow of Exeter Coll. Oxford. 3 vols. crown 8vo. 18s.

SELECTIONS from the WRITINGS of LORD MACAULAY. Edited, with Occasional Explanatory Notes, by GEORGE OTTO TREVELYAN, M.P. Crown 8vo. price 6s.

The ESSAYS and CONTRIBUTIONS of A. K. H. B. Uniform Cabinet Edition, in crown 8vo. :—

- Recreations of a Country Parson. Two Series, 3s. 6d. each.
 The Common-place Philosopher in Town and Country. 3s. 6d.
 Leisure Hours in Town. 3s. 6d.
 The Autumn Holidays of a Country Parson. 3s. 6d.
 Seaside Musings on Sundays and Week-Days. 3s. 6d.
 The Graver Thoughts of a Country Parson. Three Series, 3s. 6d. each.
 Critical Essays of a Country Parson. 3s. 6d..
 Sunday Afternoons in the Parish Church of a University City. 3s. 6d.
 Lessons of Middle Age. 3s. 6d.
 Counsel and Comfort spoken from a City Pulpit. 3s. 6d.
 Changed Aspects of Unchanged Truths. 3s. 6d.
 Present-day Thoughts. 3s. 6d.
 Landscapes, Churches, and Moralities. 3s. 6d.

LORD MACAULAY'S MISCELLANEOUS WRITINGS :—

LIBRARY EDITION. 2 vols. 8vo. Portrait, 21s.

PEOPLE'S EDITION. 1 vol. crown 8vo. 4s. 6d.

LORD MACAULAY'S MISCELLANEOUS WRITINGS and SPEECHES.

STUDENT'S EDITION, in crown 8vo. price 6s.

The Rev. SYDNEY SMITH'S MISCELLANEOUS WORKS; including his Contributions to the *Edinburgh Review*. Crown 8vo. 6s.

The WIT and WISDOM of the Rev. SYDNEY SMITH; a Selection of the most memorable Passages in his Writings and Conversation. 16mo. 3s. 6d.

The ECLIPSE of FAITH; or, a Visit to a Religious Sceptic. By HENRY ROGERS. Latest Edition. Fcp. 8vo. price 5s.

DEFENCE of the ECLIPSE of FAITH, by its Author; a rejoinder to Dr. Newman's *Reply*. Latest Edition. Fcp 8vo. price 3s. 6d.

CHIPS from a GERMAN WORKSHOP; Essays on the Science of Religion, on Mythology, Traditions, and Customs, and on the Science of Language. By F. MAX MÜLLER, M.A. 4 vols. 8vo. £2. 18s.

An INTRODUCTION to MENTAL PHILOSOPHY, on the Inductive Method. By J. D. MORELL, M.A. LL.D. 8vo. 12s.

PHILOSOPHY WITHOUT ASSUMPTIONS. By the Rev. T. P. KIRKMAN, F.R.S. Rector of Croft, near Warrington. 8vo. 10s. 6d.

The SENSES and the INTELLECT. By ALEXANDER BAIN, LL.D. Professor of Logic in the University of Aberdeen. Third Edition. 8vo. 15s.

The EMOTIONS and the WILL. By A. BAIN, LL.D. Third Edition, revised, and partly re-written. 8vo. price 15s.

MENTAL and MORAL SCIENCE: a Compendium of Psychology and Ethics. By the same Author. Third Edition. Crown 8vo. 10s. 6d. Or separately: PART I. *Mental Science*, 6s. 6d. PART II. *Moral Science*, 4s. 6d.

APPARITIONS; a Narrative of Facts. By the Rev. B. W. SAVILE, M.A. Author of 'The Truth of the Bible' &c. Crown 8vo. price 4s. 6d.

HUME'S TREATISE of HUMAN NATURE, Edited, with Notes &c. by T. H. GREEN, Fellow and Tutor, Ball. Coll. and T. H. GROSE, Fellow and Tutor, Queen's Coll. Oxford. 2 vols. 8vo. 28s.

ESSAYS MORAL, POLITICAL, and LITERARY. By DAVID HUME. By the same Editors. 2 vols. 8vo. price 28s.

..* The above form a complete and uniform Edition of DAVID HUME'S Philosophical Works.

ANALYSIS of the PHENOMENA of the HUMAN MIND. By JAMES MILL. A New Edition, with Notes, Illustrative and Critical, by ALEXANDER BAIN, ANDREW FINDLATER, and GEORGE GROTE. Edited, with additional Notes, by JOHN STUART MILL. 2 vols. 8vo. price 28s.

Astronomy, Meteorology, Popular Geography, &c.

OUTLINES of ASTRONOMY. By Sir J. F. W. HERSCHEL, Bart. M.A. Latest Edition, with Plates and Diagrams. Square crown 8vo. 12s.

ESSAYS on ASTRONOMY; Planets and Meteors, the Sun and Sun-surrounding Space, Stars and Star-Cloudlets: with a Dissertation on the Transit of Venus. By R. A. PROCTOR, B.A. Plates and Woodcuts. 8vo. 12s.

The TRANSITS of VENUS; a Popular Account of Past and Coming Transits, from the first observed by Horrocks A.D. 1639 to the Transit of A.D. 2012. By R. A. PROCTOR, B.A. Second Edition, with 20 Plates (12 coloured) and 38 Woodcuts. Crown 8vo. 8s. 6d.

The UNIVERSE and the COMING TRANSITS, Researches into and New Views respecting the Constitution of the Heavens, with an Investigation of the Conditions of the Coming Transits of Venus. By R. A. PROCTOR, B.A. With 22 Charts and 22 Woodcuts. 8vo. 16s.

The MOON; her Motions, Aspect, Scenery, and Physical Condition. By R. A. PROCTOR, B.A. With Plates, Charts, Woodcuts, and Three Lunar Photographs. Crown 8vo. 15s.

The SUN; RULER, LIGHT, FIRE, and LIFE of the PLANETARY SYSTEM. By R. A. PROCTOR, B.A. Third Edition, with 10 Plates (7 coloured) and 107 Figures on Wood. Crown 8vo. 14s.

OTHER WORLDS THAN OURS; the Plurality of Worlds Studied under the Light of Recent Scientific Researches. By R. A. PROCTOR, B.A. Third Edition, with 14 Illustrations. Crown 8vo. 10s. 6d.

The ORBS AROUND US; Familiar Essays on the Moon and Planets, Meteors and Comets, the Sun and Coloured Pairs of Stars. By R. A. PROCTOR, B.A. Second Edition, with Charts and 4 Diagrams. Crown 8vo. price 7s. 6d.

SATURN and its SYSTEM. By R. A. PROCTOR, B.A. 8vo. with 14 Plates, 14s.

A NEW STAR ATLAS, for the Library, the School, and the Observatory, in Twelve Circular Maps; with Two Index Plates and an Introduction on the Study of the Stars, illustrated by 9 Diagrams. By R. A. PROCTOR, B.A. Crown 8vo. 5s.

The MOON, and the Condition and Configurations of its Surface. By EDMUND NEISON, Fellow of the Royal Astronomical Society, &c. With 26 Maps and 5 Plates. Medium 8vo. 31s. 6d.

SCHellen's SPECTRUM ANALYSIS, in its application to Terrestrial Substances and the Physical Constitution of the Heavenly Bodies. Translated by JANE and C. LASSELL; edited, with Notes, by W. HUGGINS, LL.D. F.R.S. With 13 Plates (6 coloured) and 223 Woodcuts. 8vo. price 28s.

CELESTIAL OBJECTS for COMMON TELESCOPES. By the Rev. T. W. WEBB, M.A. F.R.A.S. Third Edition, revised and enlarged; with Maps, Plate, and Woodcuts. Crown 8vo. price 7s. 6d.

- AIR and RAIN; the Beginnings of a Chemical Climatology.** By ROBERT ANGUS SMITH, Ph.D. F.R.S. F.C.S. With 8 Illustrations. 8vo. 24s.
- AIR and its RELATIONS to LIFE.** By W. N. HARTLEY, F.C.S. Demonstrator of Chemistry at King's College, London. Second Edition, with 66 Woodcuts. Small 8vo. 6s.
- DOVE'S LAW of STORMS,** considered in connexion with the Ordinary Movements of the Atmosphere. Translated by R. H. SCOTT, M.A. 8vo. 10s. 6d.
- The PUBLIC SCHOOLS ATLAS of MODERN GEOGRAPHY.** In 31 entirely new Coloured Maps. Edited, with an Introduction, by the Rev. G. BUTLER, M.A. Imperial 8vo. or imperial 4to. 5s. cloth.
- The PUBLIC SCHOOLS ATLAS of ANCIENT GEOGRAPHY,** in 28 entirely new Coloured Maps. Edited by the Rev. G. BUTLER, M.A. Imperial 8vo. or imperial 4to. 7s. 6d. cloth.
- KEITH JOHNSTON'S GENERAL DICTIONARY of GEOGRAPHY,** Descriptive, Physical, Statistical, and Historical; forming a complete Gazetteer of the World. New Edition (1877), revised and corrected. 8vo. price 42s.

Natural History and Popular Science.

TEXT-BOOKS of SCIENCE, MECHANICAL and PHYSICAL, adapted for the use of Artisans and of Students in Public and Science Schools.

- ANDERSON'S Strength of Materials, small 8vo. 3s. 6d.
 ARMSTRONG'S Organic Chemistry, 3s. 6d.
 BARRY'S Railway Appliances, 3s. 6d.
 BLOXAM'S Metals, 3s. 6d.
 GOODEVE'S Elements of Mechanism, 3s. 6d.
 Principles of Mechanics, 3s. 6d.
 GORE'S Art of Electro-Metallurgy, 6s.
 GRIFFIN'S Algebra and Trigonometry, 3s. 6d.
 JENKIN'S Electricity and Magnetism, 3s. 6d.
 MAXWELL'S Theory of Heat, 3s. 6d.
 MERRIFIELD'S Technical Arithmetic and Mensuration, 3s. 6d.
 MILLER'S Inorganic Chemistry, 3s. 6d.
 PREECE & SIVEWRIGHT'S Telegraphy, 3s. 6d.
 SHELLEY'S Workshop Appliances, 3s. 6d.
 THOMÉ'S Structural and Physiological Botany, 6s.
 THORPE'S Quantitative Chemical Analysis, 4s. 6d.
 THORPE & MUIR'S Qualitative Analysis, 3s. 6d.
 TILDEN'S Chemical Philosophy, 3s. 6d.
 UNWIN'S Machine Design, 3s. 6d.
 WATSON'S Plane and Solid Geometry, 3s. 6d.

ELEMENTARY TREATISE on PHYSICS, Experimental and Applied. Translated and edited from GANOT'S *Éléments de Physique* by E. ATKINSON, Ph.D. F.C.S. Seventh Edition, revised and enlarged; with 4 Coloured Plates and 758 Woodcuts. Post 8vo. 15s.

NATURAL PHILOSOPHY for GENERAL READERS and YOUNG PERSONS; being a Course of Physics divested of Mathematical Formulæ expressed in the language of daily life. Translated from GANOT'S *Cours de Physique* and by E. ATKINSON, Ph.D. F.C.S. Second Edition, with 2 Plates and 429 Woodcuts. Crown 8vo. price 7s. 6d.

ARNOTT'S ELEMENTS of PHYSICS or NATURAL PHILOSOPHY. Seventh Edition, edited by A. RAIN, LL.D. and A. S. TAYLOR, M.D. F.R.S. Crown 8vo. Woodcuts, 12s. 6d.

HELMHOLTZ'S POPULAR LECTURES on SCIENTIFIC SUBJECTS.

Translated by E. ATKINSON, Ph.D. F.C.S. Professor of Experimental Science, Staff College. With an Introduction by Professor TYNDALL. 8vo. with numerous Woodcuts, price 12s. 6d.

On the SENSATIONS of TONE as a Physiological Basis for the Theory of Music. By HERMANN L. F. HELMHOLTZ, M.D. Professor of Physics in the University of Berlin. Translated, with Additional Notes and an Appendix, by A. J. ELLIS, F.R.S. &c. 8vo. 36s.

The HISTORY of MODERN MUSIC, a Course of Lectures delivered at the Royal Institution. By JOHN HULLAH, LL.D. 8vo. 8s. 6d.

The TRANSITION PERIOD of MUSICAL HISTORY; a Second Course of Lectures on the History of Music from the Beginning of the 17th to the Middle of the 18th Century, delivered at the Royal Institution. By JOHN HULLAH, LL.D. Second Edition. 8vo. 10s. 6d.

SOUND. By JOHN TYNDALL, LL.D. D.C.L. F.R.S. Third Edition, including Recent Researches on Fog-Signalling; Portrait and Woodcuts. Crown 8vo. 10s. 6d.

HEAT a MODE of MOTION. By JOHN TYNDALL, LL.D. D.C.L. F.R.S. Fifth Edition. Plate and Woodcuts. Crown 8vo. 10s. 6d.

CONTRIBUTIONS to MOLECULAR PHYSICS in the DOMAIN of RADIANT HEAT. By J. TYNDALL, LL.D. D.C.L. F.R.S. With 2 Plates and 31 Woodcuts. 8vo. 16s.

RESEARCHES on DIAMAGNETISM and MAGNE-CRYSTALLIC ACTION; including the Question of Diamagnetic Polarity. By J. TYNDALL, M.D. D.C.L. F.R.S. With 6 plates and many Woodcuts. 8vo. 14s.

LESSONS in ELECTRICITY at the ROYAL INSTITUTION, 1875-6. By JOHN TYNDALL, D.C.L. LL.D. F.R.S. Professor of Natural Philosophy in the Royal Institution of Great Britain. With 58 Woodcuts. Crown 8vo. 2s. 6d.

NOTES of a COURSE of SEVEN LECTURES on ELECTRICAL PHENOMENA and THEORIES, delivered at the Royal Institution, A.D. 1870. By JOHN TYNDALL, LL.D., D.C.L., F.R.S. Crown 8vo. 1s. sewed; 1s. 6d. cloth.

SIX LECTURES on LIGHT delivered in America in 1872 and 1873. By JOHN TYNDALL, LL.D. D.C.L. F.R.S. Second Edition, with Portrait, Plate, and 59 Diagrams. Crown 8vo. 7s. 6d.

NOTES of a COURSE of NINE LECTURES on LIGHT delivered at the Royal Institution, A.D. 1869. By JOHN TYNDALL, LL.D. D.C.L. F.R.S. Crown 8vo. price 1s. sewed, or 1s. 6d. cloth.

FRAGMENTS of SCIENCE. By JOHN TYNDALL, LL.D. D.C.L. F.R.S. Third Edition, with a New Introduction. Crown 8vo. 10s. 6d.

LIGHT SCIENCE for LEISURE HOURS; a Series of Familiar Essays on Scientific Subjects, Natural Phenomena, &c. By R. A. PROCTOR, B.A. First and Second Series. Crown 8vo. 7s. 6d. each.

A TREATISE on MAGNETISM, General and Terrestrial. By HUMPHREY LLOYD, D.D. D.C.L., Provost of Trinity College, Dublin. 8vo. 10s. 6d.

ELEMENTARY TREATISE on the WAVE-THEORY of LIGHT. By HUMPHREY LLOYD, D.D. D.C.L. Provost of Trinity College, Dublin. Third Edition, revised and enlarged. 8vo. price 10s. 6d.

The CORRELATION of PHYSICAL FORCES. By the Hon. Sir W. R. GROVE, M.A. F.R.S. one of the Judges of the Court of Common Pleas. Sixth Edition, with other Contributions to Science. 8vo. price 15s.

The COMPARATIVE ANATOMY and PHYSIOLOGY of the VERTEBRATE ANIMALS. By RICHARD OWEN, F.R.S. D.C.L. With 1,472 Woodcuts. 3 vols. 8vo. £3. 13s. 6d.

PRINCIPLES of ANIMAL MECHANICS. By the Rev. S. HAUGHTON, F.R.S. Fellow of Trin. Coll. Dubl. M.D. Dubl. and D.C.L. Oxon. Second Edition, with 111 Figures on Wood. 8vo. 21s.

The ANCIENT STONE IMPLEMENTS, WEAPONS, and ORNAMENTS of GREAT BRITAIN. By JOHN EVANS, F.R.S. F.S.A. With 2 Plates and 476 Woodcuts. 8vo. price 28s.

The GEOLOGY of ENGLAND and WALES; A Concise Account of the Lithological Characters, Leading Fossils, and Economic Products of the Rocks; with Notes on the Physical Features of the Country. By H. B. WOODWARD, F.G.S. With a Coloured Map and 29 Woodcuts. Crown 8vo. 14s.

The PRIMÆVAL WORLD of SWITZERLAND. By Professor OSWALD HEER, of the University of Zurich. Edited by JAMES HEYWOOD, M.A. F.R.S. President of the Statistical Society. With a Coloured Map, 19 Plates in Lithography and Chromoxylography, and 372 Woodcuts. 2 vols. 8vo. 28s.

The PUZZLE of LIFE and HOW it HAS BEEN PUT TOGETHER: a Short History of Vegetable and Animal Life upon the Earth from the Earliest Times; including an Account of Pre-Historic Man, his Weapons, Tools, and Works. By A. NICOLS, F.R.G.S. With 12 Illustrations. Crown 8vo. 3s. 6d.

The ORIGIN of CIVILISATION and the PRIMITIVE CONDITION of MAN; Mental and Social Condition of Savages. By Sir JOHN LUBBOCK, Bart. M.P. F.R.S. Third Edition, with 25 Woodcuts. 8vo. 18s.

BIBLE ANIMALS; being a Description of every Living Creature mentioned in the Scriptures, from the Ape to the Coral. By the Rev. J. G. WOOD, M.A. F.L.S. With about 112 Vignettes on Wood. 8vo. 14s.

HOMES WITHOUT HANDS; a Description of the Habitations of Animals, classed according to their Principle of Construction. By the Rev. J. G. WOOD, M.A. F.L.S. With about 140 Vignettes on Wood. 8vo. 14s.

INSECTS AT HOME; a Popular Account of British Insects, their Structure, Habits, and Transformations. By the Rev. J. G. WOOD, M.A. F.L.S. With upwards of 700 Illustrations. 8vo. price 14s.

INSECTS ABROAD; a Popular Account of Foreign Insects, their Structure, Habits, and Transformations. By J. G. WOOD, M.A. F.L.S. Printed and illustrated uniformly with 'Insects at Home.' 8vo. price 14s.

STRANGE DWELLINGS; a description of the Habitations of Animals, abridged from 'Homes without Hands.' By the Rev. J. G. WOOD, M.A. F.L.S. With about 60 Woodcut Illustrations. Crown 8vo. price 7s. 6d.

OUT of DOORS; a Selection of original Articles on Practical Natural History. By the Rev. J. G. WOOD, M.A. F.L.S. With Eleven Illustrations from Original Designs engraved on Wood by G. Pearson. Crown 8vo. price 7s. 6d.

A FAMILIAR HISTORY of BIRDS. By E. STANLEY, D.D. F.R.S. late Lord Bishop of Norwich. Seventh Edition, with Woodcuts. Fcp. 3 s. 6d.

KIRBY and SPENCE'S INTRODUCTION to ENTOMOLOGY, or
Elements of the Natural History of Insects. 7th Edition. Crown 8vo. 5s.

The SEA and its LIVING WONDERS. By Dr. GEORGE HARTWIG.
Latest revised Edition. 8vo. with many Illustrations, 10s. 6d.

The TROPICAL WORLD. By Dr. GEORGE HARTWIG. With above 160
Illustrations. Latest revised Edition. 8vo. price 10s. 6d.

The SUBTERRANEAN WORLD. By Dr. GEORGE HARTWIG. With
3 Maps and about 80 Woodcuts, including 8 full size of page. 8vo. price 10s. 6d.

The POLAR WORLD, a Popular Description of Man and Nature in the
Arctic and Antarctic Regions of the Globe. By Dr. GEORGE HARTWIG. With
8 Chromoxylographs, 3 Maps, and 85 Woodcuts. 8vo. 10s. 6d.

The AERIAL WORLD. By Dr. G. HARTWIG. New Edition, with 8
Chromoxylographs and 60 Woodcut Illustrations. 8vo. price 10s. 6d.

BRANDE'S DICTIONARY of SCIENCE, LITERATURE, and ART.
Re-edited by the Rev. GEORGE W. COX, M.A. late Scholar of Trinity College,
Oxford; assisted by Contributors of eminent Scientific and Literary Acquire-
ments. New Edition, revised. 3 vols. medium 8vo. 63s.

**HANDBOOK of HARDY TREES, SHRUBS, and HERBACEOUS
PLANTS**, containing Descriptions, Native Countries, &c. of a Selection of the
Best Species in Cultivation; together with Cultural Details, Comparative
Hardiness, Suitability for Particular Positions, &c. By W. B. HEMSLEY. With
264 Original Woodcuts. Medium 8vo. 12s.

DECAISNE and LE MAOUT'S GENERAL SYSTEM of BOTANY,
DESCRIPTIVE and ANALYTICAL. Translated by Mrs. HOOKER. The
Orders arranged after the Method followed in the Universities and Schools of
Great Britain, with an Appendix on the Natural Method, by J. D. HOOKER,
F.R.S. &c. Second Thousand, with 5,500 Woodcuts. Imperial 8vo. 31s. 6d.

The ELEMENTS of BOTANY for FAMILIES and SCHOOLS.
Tenth Edition, revised by THOMAS MOORE, F.L.S. Fcp. 8vo. with 154 Wood-
cuts, 2s. 6d.

The ROSE AMATEUR'S GUIDE. By THOMAS RIVERS. Fourteenth
Edition. Fcp. 8vo. 4s.

LOUDON'S ENCYCLOPÆDIA of PLANTS; comprising the Specific
Character, Description, Culture, History, &c. of all the Plants found in
Great Britain. With upwards of 12,000 Woodcuts. 8vo. 42s.

Chemistry and Physiology.

ANIMAL CHEMISTRY; or, the Relations of Chemistry to Physiology
and Pathology: including the Results of the most recent Scientific Researches
and Experiments. By CHARLES T. KINGZETT, F.C.S. Lond. & Berlin, Consulting
Chemist. 8vo. [In the press.]

A DICTIONARY of CHEMISTRY and the Allied Branches of other Sciences. By HENRY WATTS, F.R.S. assisted by eminent Contributors. Seven Volumes, medium 8vo. price £10. 16s. 6d.

SUPPLEMENTARY VOLUME, completing the Record of Chemical Discovery to the year 1876. *[In preparation.]*

ELEMENTS of CHEMISTRY, Theoretical and Practical. By W. ALLEN MILLER, M.D. late Prof. of Chemistry, King's Coll. London. New Edition. 3 vols. 8vo. PART I. CHEMICAL PHYSICS, New Edition in October. PART II. INORGANIC CHEMISTRY, 21s. PART III. ORGANIC CHEMISTRY, New Edition in the press.

SELECT METHODS in CHEMICAL ANALYSIS, chiefly INORGANIC. By WILLIAM CROOKES, F.R.S. With 22 Woodcuts. Crown 8vo. price 12s. 6d.

A PRACTICAL HANDBOOK of DYEING and CALICO PRINTING. By WILLIAM CROOKES, F.R.S. With 11 Page Plates, 49 Specimens of Dyed and Printed Fabrics, and 36 Woodcuts. 8vo. 42s.

ANTHRACEN; its Constitution, Properties, Manufacture, and Derivatives, including Artificial Alizarin, Anthrapurpurin, &c. with their Applications in Dyeing and Printing. By G. AUERBACH. Translated by W. CROOKES, F.R.S. 8vo. 12s.

The **HISTORY, PRODUCTS, and PROCESSES** of the **ALKALI TRADE**, including the most recent Improvements. By CHARLES T. KINGZETT, F.C.S. Lond. & Berlin, Consulting Chemist. With 23 Woodcuts. 8vo. 12s.

OUTLINES of PHYSIOLOGY, Human and Comparative. By JOHN MARSHALL, F.R.C.S. Surgeon to the University College Hospital. 2 vols. crown 8vo. with 122 Woodcuts, 32s.

HEALTH in the HOUSE; a Series of Lectures on Elementary Physiology in its application to the Daily Wants of Man and Animals, delivered to the Wives and Children of Working Men in Leeds and Saltaire. By CATHERINE M. BUCKTON. New Edition, revised. Small 8vo. Woodcuts, 2s.

The Fine Arts, and Illustrated Editions.

A DICTIONARY of ARTISTS of the **ENGLISH SCHOOL**: Painters, Sculptors, Architects, Engravers, and Ornamentists; with Notices of their Lives and Works. By S. REDGRAVE. 8vo. 16s.

MOORE'S LALLA ROOKH, an Oriental Romance, TENNIEL's Edition, with 68 Illustrations from Original Drawings, engraved on Wood by G. Pearson and other Artists. Fcp. 4to. 21s.

MOORE'S IRISH MELODIES, with 161 Steel Plates from Original Drawings by D. MACLISE, R.A. and the whole of the Text engraved on the same Plates. Super-royal 8vo. 21s.

LORD MACAULAY'S LAYS of ANCIENT ROME. With Ninety Original Illustrations engraved on Wood, chiefly after the Antique, from Drawings by G. SCHARF. Fcp. 4to. 21s.

MINIATURE EDITION of LORD MACAULAY'S LAYS of ANCIENT ROME, with the Illustrations (as above) reduced in Lithography. Imp. 16mo. 10s. 6d.

POEMS. By WILLIAM B. SCOTT. With 17 Etchings by L. A. TADEMA and W. B. SCOTT. Crown 8vo. 15s.

HALF-HOUR LECTURES on the HISTORY and PRACTICE of the FINE and ORNAMENTAL ARTS. By WILLIAM B. SCOTT. Third Edition, with 50 Woodcuts. Crown 8vo. 8s. 6d.

The THREE CATHEDRALS DEDICATED to ST. PAUL, in LONDON; their History from the Foundation of the First Building in the Sixth Century to the Proposals for the Adornment of the Present Cathedral. By WILLIAM LONGMAN, F.A.S. With numerous Illustrations. Square crown 8vo. 21s.

IN FAIRYLAND; Pictures from the Elf-World. By RICHARD DOYLE. With a Poem by W. ALLINGHAM. With Sixteen Plates, containing Thirty-six Designs printed in Colours. Second Edition. Folio, price 15s.

The NEW TESTAMENT, illustrated with Wood Engravings after the Early Masters, chiefly of the Italian School. Crown 4to. 63s. cloth, gilt top; or £5. 5s. elegantly bound in morocco.

SACRED and LEGENDARY ART. By MRS. JAMESON. With numerous Etchings and Engravings on Wood from Early Missals, Mosaics, Illuminated MSS. and other Original Sources.

LEGENDS of the SAINTS and MARTYRS. Latest Edition, with 19 Etchings and 187 Woodcuts. 2 vols. square crown 8vo. 31s. 6d.

LEGENDS of the MONASTIC ORDERS. Latest Edition, with 11 Etchings and 88 Woodcuts. 1 vol. square crown 8vo. 21s.

LEGENDS of the MADONNA. Latest Edition, with 27 Etchings and 165 Woodcuts. 1 vol. square crown 8vo. 21s.

The HISTORY of OUR LORD, with that of his Types and Precursors. Completed by Lady EASTLAKE. Latest Edition, with 31 Etchings and 281 Woodcuts. 2 vols. square crown 8vo. 42s.

LECTURES on HARMONY, delivered at the Royal Institution. By G. A. MACFARREN. Second Edition, with numerous Engraved Musical Examples and Specimens. 8vo. 12s.

The Useful Arts, Manufactures, &c.

GWILT'S ENCYCLOPÆDIA of ARCHITECTURE, with above 1,600 Engravings on Wood. New Edition, revised and enlarged by WYATT PAPWORTH. 8vo. 52s. 6d.

HINTS on HOUSEHOLD TASTE in FURNITURE, UPHOLSTERY, and other Details. By CHARLES L. EASTLAKE, Architect. Third Edition, with about 90 Illustrations. Square crown 8vo. 14s.

INDUSTRIAL CHEMISTRY; a Manual for Manufacturers and for use in Colleges or Technical Schools. Being a Translation of Professors Stohmann and Engler's German Edition of PAYEN's *Précis de Chimie Industrielle*, by Dr. J. D. BARRY. Edited and supplemented by B. H. PAUL, Ph.D. 8vo. with Plates and Woodcuts.

[In the press.]

URE'S DICTIONARY of ARTS, MANUFACTURES, and MINES.

Seventh Edition, rewritten and enlarged by ROBERT HUNT, F.R.S. assisted by numerous Contributors eminent in Science and the Arts, and familiar with Manufactures. With above 2,100 Woodcuts. 3 vols. medium 8vo. £5. 5s.

VOL. IV. Supplementary, completing all the Departments of the Dictionary to the year 1877, is preparing for publication.

HANDBOOK of PRACTICAL TELEGRAPHY. By R. S. CULLEY,

Memb. Inst. C.E. Engineer-in-Chief of Telegraphs to the Post Office. Sixth Edition, with 144 Woodcuts and 5 Plates. 8vo. price 16s.

ENCYCLOPÆDIA of CIVIL ENGINEERING, Historical, Theoretical, and Practical. By E. CRESY, C.E. With above 3,000 Woodcuts. 8vo. 42s.**The AMATEUR MECHANIC'S PRACTICAL HANDBOOK;** describing the different Tools required in the Workshop, the uses of them, and how to use them, with examples of different kinds of work, &c. with full Descriptions and Drawings. By A. H. G. HOBSON. With 33 Woodcuts. Crown 8vo. 2s. 6d.**The ENGINEER'S VALUING ASSISTANT.** By H. D. HOSKOLD, Civil and Mining Engineer, 16 years Mining Engineer to the Dean Forest Iron Company. 8vo. price 31s. 6d.**The WHITWORTH MEASURING MACHINE;** including Descriptions of the Surface Plates, Gauges, and other Measuring Instruments made by Sir JOSEPH WHITWORTH, Bart. By T. M. GOODEVE, M.A. and C. P. B. SHELLEY, C.E. With 4 Plates and 44 Woodcuts. Fcp. 4to. price 21s.**RAILWAYS and LOCOMOTIVES;** a Series of Lectures delivered at the School of Military Engineering, Chatham, in the year 1877. *Railways*, by JOHN WOLFE BARRY, M. Inst. C.E. *Locomotives*, by F. J. BRAMWELL, F.R.S. M. Inst. C.E. [In the press.]**USEFUL INFORMATION for ENGINEERS.** By SIR W. FAIRBAIRN, Bart. F.R.S. Revised Edition, with Illustrations. 3 vols. crown 8vo. price 31s. 6d.**The APPLICATION of CAST and WROUGHT IRON to Building Purposes.** By Sir W. FAIRBAIRN, Bart. F.R.S. Fourth Edition, enlarged; with 6 Plates and 118 Woodcuts. 8vo. price 16s.**The THEORY of STRAINS in GIRDERS** and similar Structures, with Observations on the application of Theory to Practice, and Tables of the Strength and other Properties of Materials. By BINDON B. STONEY, M.A. M. Inst. C.E. Second Edition. Royal 8vo. with 5 Plates & 123 Woodcuts, 36s.**A TREATISE on the STEAM ENGINE,** in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture. By J. BOURNE, C.E. With Portrait, 37 Plates, and 546 Woodcuts. 4to. 42s.**CATECHISM of the STEAM ENGINE,** in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture. By the same Author. With 89 Woodcuts. Fcp. 8vo. 6s.**HANDBOOK of the STEAM ENGINE.** By the same Author, forming a KEY to the Catechism of the Steam Engine, with 67 Woodcuts. Fcp. 9s.**BOURNE'S RECENT IMPROVEMENTS in the STEAM ENGINE** in its various applications to Mines, Mills, Steam Navigation, Railways, and Agriculture. By JOHN BOURNE, C.E. With 124 Woodcuts. Fcp. 8vo. 6s.

LATHES and TURNING, Simple, Mechanical, and Ornamental. By W. HENRY NORTHCOTT. Second Edition, with 338 Illustrations. 8vo. 18s.

PRACTICAL TREATISE on METALLURGY, adapted from the last German Edition of Professor KERL's *Metallurgy* by W. CROOKES, F.R.S. &c. and E. RÖHRIG, Ph.D. M.E. With 625 Woodcuts. 3 vols. 8vo. price £4 19s.

MITCHELL'S MANUAL of PRACTICAL ASSAYING. Fourth Edition, for the most part rewritten, with all the recent Discoveries incorporated, by W. CROOKES, F.R.S. With 199 Woodcuts. 8vo. 31s. 6d.

LOUDON'S ENCYCLOPÆDIA of AGRICULTURE: comprising the Laying-out, Improvement, and Management of Landed Property, and the Cultivation and Economy of Agricultural Produce. With 1,100 Woodcuts. 8vo. 21s.

LOUDON'S ENCYCLOPÆDIA of GARDENING: comprising the Theory and Practice of Horticulture, Floriculture, Arboriculture, and Landscape Gardening. With 1,000 Woodcuts. 8vo. 21s.

Religious and Moral Works.

CHRISTIAN LIFE, its COURSE, its HINDRANCES, and its HELPS; Sermons preached mostly in the Chapel of Rugby School. By the late THOMAS ARNOLD, D.D. 8vo. 7s. 6d.

CHRISTIAN LIFE, its HOPES, its FEARS, and its CLOSE; Sermons preached mostly in the Chapel of Rugby School. By the late THOMAS ARNOLD, D.D. 8vo. 7s. 6d.

SERMONS chiefly on the INTERPRETATION of SCRIPTURE. By the late THOMAS ARNOLD, D.D. 8vo. price 7s. 6d.

SERMONS preached in the Chapel of Rugby School; with an Address before Confirmation. By the late THOMAS ARNOLD, D.D. Fcp. 8vo. 3s. 6d.

THREE ESSAYS on RELIGION: Nature; the Utility of Religion; Theism. By JOHN STUART MILL. 8vo. price 10s. 6d.

INTRODUCTION to the SCIENCE of RELIGION. Four Lectures delivered at the Royal Institution; with Two Essays on False Analogies and the Philosophy of Mythology. By F. MAX MÜLLER, M.A. Crown 8vo. 10s. 6d.

SUPERNATURAL RELIGION; an Inquiry into the Reality of Divine Revelation. Sixth Edition. 3 vols. 8vo. 38s.

BEHIND the VEIL; an Outline of Bible Metaphysics compared with Ancient and Modern Thought. By the Rev. T. GRIFFITH, M.A. Prebendary of St. Paul's. 8vo. 10s. 6d.

The TRIDENT, the CRESCENT, and the CROSS; a View of the Religious History of India during the Hindu, Buddhist, Mohammedan, and Christian Periods. By the Rev. J. VAUGHAN. 8vo. 9s. 6d.

The PRIMITIVE and CATHOLIC FAITH in Relation to the Church of England. By the Rev. B. W. SAVILE, M.A. 8vo. price 7s.

SYNONYMS of the OLD TESTAMENT, their BEARING on CHRISTIAN FAITH and PRACTICE. By the Rev. R. B. GIRDLESTONE, M.A. 8vo. 15s.

A COMMENTARY on the THIRTY-NINE ARTICLES, forming an Introduction to the Theology of the Church of England. By the Rev. T. P. BOULTBEE, LL.D. New Edition. Crown 8vo. 6s.

An EXPOSITION of the THIRTY-NINE ARTICLES, Historical and Doctrinal. By EDWARD HAROLD BROWNE, D.D. Lord Bishop of Winchester. New Edition. 8vo. 16s.

The LIFE and LETTERS of ST. PAUL, including a New English Translation of the Epistles. By the Rev. W. J. CONYBEARE, M.A. and the Very Rev. JOHN SAUL HOWSON, D.D. Dean of Chester. Copiously illustrated with Landscape Views, Maps, Plans, Charts, Coins, and Vignettes.

Library Edition, with all the Original Illustrations, Maps, Landscapes on Steel, Woodcuts, &c. 2 vols. 4to. 42s.

Intermediate Edition, with a Selection of Maps, Plates, and Woodcuts. 2 vols. square crown 8vo. 21s.

Student's Edition, revised and condensed, with 46 Illustrations and Maps. 1 vol. crown 8vo. price 9s.

HISTORY of the REFORMATION in EUROPE in the TIME of CALVIN. By the Rev. J. H. MERLE D'AUBIGNÉ, D.D. Translated by W. L. R. CATES. (In Eight Volumes.) 7 vols. 8vo. price £5. 11s.

VOL. VIII. completing the English Edition, is nearly ready.

The FOUR GOSPELS in GREEK, with Greek-English Lexicon. By JOHN T. WHITE, D.D. Oxon. Rector of St. Martin, Ludgate. Square 32mo. 5s.

NEW TESTAMENT COMMENTARIES. By the Rev. W. A. O'CONOR, B.A. Rector of St. Simon and St. Jude, Manchester. Crown 8vo. Epistle to the Romans, price 3s. 6d. Epistle to the Hebrews, 4s. 6d. St. John's Gospel, 10s. 6d.

A CRITICAL and GRAMMATICAL COMMENTARY on ST. PAUL'S Epistles. By C. J. ELLICOTT, D.D. Lord Bishop of Gloucester and Bristol. 8vo. Galatians, Fourth Edition, 8s. 6d. Ephesians, Fourth Edition, 8s. 6d. Pastoral Epistles, Fourth Edition, 10s. 6d. Philippians, Colossians, and Philemon, Third Edition, 10s. 6d. Thessalonians, Third Edition, 7s. 6d.

HISTORICAL LECTURES on the LIFE of OUR LORD. By C. J. ELLICOTT, D.D. Bishop of Gloucester and Bristol. Sixth Edition. 8vo. 12s.

EVIDENCE of the TRUTH of the CHRISTIAN RELIGION derived from the Literal Fulfilment of Prophecy. By ALEXANDER KEITH, D.D. 37th Edition, with Plates, in square 8vo. 12s. 6d. 39th Edition, in post 8vo. 6s.

HISTORY of ISRAEL. By H. EWALD, late Professor of the Univ. of Göttingen. Translated by J. E. CARPENTER, M.A., with a Preface by RUSSELL MARTINEAU, M.A. 5 vols. 8vo. 63s.

The ANTIQUITIES of ISRAEL. By HEINRICH EWALD, late Professor of the University of Göttingen. Translated from the German by HENRY SHAEN SOLLY, M.A. 8vo. price 12s. 6d.

- The JEWISH MESSIAH**; a Critical History of the Messianic Idea among the Jews, from the Rise of the Maccabees to the closing of the Talmud. By JAMES DRUMMOND, B.A. Professor of Theology in Manchester New College, London. [*In the press.*]
- The PROPHETS and PROPHECY of ISRAEL**; An Historical and Critical Inquiry. By Dr. A. KUNEN, Prof. of Theol. in the Univ. of Leyden. Translated from the Dutch by the Rev. A. MILROY, M.A. with an Introduction by J. MUIR, D.C.L. 8vo. 21s.
- MYTHOLOGY among the HEBREWS**, its Historical Development; Researches bearing on the Science of Mythology and the History of Religion. By IGNAZ GOLDZIEHER, Ph.D. Member of the Hungarian Academy of Sciences. Translated by RUSSELL MARTINEAU, M.A. 8vo. 16s.
- LECTURES on the PENTATEUCH and the MOABITE STONE.** By the Right Rev. J. W. COLENSO, D.D. Bishop of Natal. 8vo. 12s.
- The PENTATEUCH and BOOK of JOSHUA CRITICALLY EXAMINED.** By the Right Rev. J. W. COLENSO, D.D. Bishop of Natal. Crown 8vo. 6s.
- SOME QUESTIONS of the DAY.** By the Author of 'Amy Herbert.' Crown 8vo. price 2s. 6d.
- THOUGHTS for the AGE.** By the Author of 'Amy Herbert,' &c. Fcp. 8vo. price 3s. 6d.
- PASSING THOUGHTS on RELIGION.** By ELIZABETH M. SEWELL. Fcp. 8vo. 3s. 6d.
- SELF-EXAMINATION before CONFIRMATION.** By ELIZABETH M. SEWELL. 32mo. 1s. 6d.
- PREPARATION for the HOLY COMMUNION**; the Devotions chiefly from the Works of JEREMY TAYLOR. By Miss SEWELL. 32mo. 3s.
- LYRA GERMANICA**, Hymns translated from the German by Miss C. WINKWORTH. Fcp. 8vo. price 5s.
- SPIRITUAL SONGS for the SUNDAYS and HOLIDAYS** throughout the Year. By J. S. B. MONSELL, LL.D. Fcp. 8vo. 5s. 18mo. 2s.
- The TEMPORAL MISSION of the HOLY GHOST**; or, Reason and Revelation. By HENRY EDWARD MANNING, D.D. Cardinal-Archbishop. Third Edition. Crown 8vo. 8s. 6d.
- HOURS of THOUGHT on SACRED THINGS**; a Volume of Sermons. By JAMES MARTINEAU, D.D. LL.D. Crown 8vo. 7s. 6d.
- ENDEAVOURS after the CHRISTIAN LIFE**; Discourses. By the Rev. J. MARTINEAU, LL.D. Fifth Edition. Crown 8vo. 7s. 6d.
- HYMNS of PRAISE and PRAYER**, collected and edited by the Rev. J. MARTINEAU, LL.D. Crown 8vo. 4s. 6d. 32mo. 1s. 6d.
- The TYPES of GENESIS**, briefly considered as revealing the Development of Human Nature. By ANDREW JUKES. Third Edition. Crown 8vo. 7s. 6d.

The SECOND DEATH and the RESTITUTION of ALL THINGS; with some Preliminary Remarks on the Nature and Inspiration of Holy Scripture. By ANDREW JUKES. Fourth Edition. Crown 8vo. 3s. 6d.

WHATELY'S INTRODUCTORY LESSONS on the CHRISTIAN Evidences. 18mo. 6d.

BISHOP JEREMY TAYLOR'S ENTIRE WORKS. With Life by BISHOP HEBER. Revised and corrected by the Rev. C. P. EDEN. Complete in Ten Volumes, 8vo. cloth, price £5. 5s.

Travels, Voyages, &c.

A VOYAGE ROUND the WORLD in the YACHT 'SUNBEAM,' By Mrs. BRASSEY. With a Map, 8 Full-Page Illustrations engraved on Wood, and nearly a hundred Woodcuts in the text. 8vo. price 21s.

A YEAR in WESTERN FRANCE. By M. BETHAM-EDWARDS. With Frontispiece View of the Hôtel de Ville, La Rochelle. Crown 8vo. 10s. 6d.

JOURNAL of a RESIDENCE in VIENNA and BERLIN during the eventful Winter, 1805-6. By the late HENRY REEVE, M.D. Published by his SON. Crown 8vo. price 8s. 6d.

The INDIAN ALPS, and How we Crossed them: being a Narrative of Two Years' Residence in the Eastern Himalayas, and Two Months' Tour into the Interior. By a Lady PIONEER. With Illustrations from Drawings by the Author. Imperial 8vo. 42s.

TYROL and the TYROLESE; being an Account of the People and the Land, in their Social, Sporting, and Mountaineering Aspects. By W. A. BAILLIE GROEMAN. Second Edition, with Illustrations. Crown 8vo. 6s.

The FROSTY CAUCASUS; An Account of a Walk through Part of the Range, and of an Ascent of Elbruz in the Summer of 1874. By F. C. GROVE. With Eight Illustrations and a Map. Crown 8vo. 15s.

A THOUSAND MILES up the NILE, being a JOURNEY through EGYPT and NUBIA to the SECOND CATARACT By AMELIA B. EDWARDS. With Eighty Illustrations from Drawings by the Author, Two Maps, Plans, Facsimiles, &c. Imperial 8vo. price 42s.

OVER the SEA and FAR AWAY; being a Narrative of a Ramble round the World. By THOMAS WOODBINE HINCHLIFF, M.A. F.R.G.S. President of the Alpine Club. With 14 full-page Illustrations. Medium 8vo. 21s.

THROUGH BOSNIA and the HERZEGOVINA on FOOT during the INSURRECTION; with an Historical Review of Bosnia, and a Glimpse at the Croats, Slavonians, and the Ancient Republic of Ragusa. By A. J. EVANS, B.A. F.S.A. Second Edition, with Map and 58 Wood Engravings. 8vo. 18s.

DISCOVERIES at EPHESUS, including the Site and Remains of the Great Temple of Diana. By J. T. WOOD, F.S.A. With 27 Lithographic Plates and 42 Engravings on Wood. Imperial 8vo. price 63s.

MEMORIALS of the DISCOVERY and EARLY SETTLEMENT of the BERMUDAS or SOMERS ISLANDS, from 1615 to 1685. Compiled from the Colonial Records and other original sources. By Major-General Sir J. H. LEFROY, B.A. C.B. K.C.M.G. F.R.S. &c. (In 2 vols.) VOL. I. imperial 8vo. with 2 Maps, price 30s.

ITALIAN ALPS; Sketches in the Mountains of Ticino, Lombardy, the Trentino, and Venetia. By DOUGLAS W. FRESHFIELD, Editor of 'The Alpine Journal.' Square crown 8vo. with Maps and Illustrations, price 15s.

The RIFLE and the HOUND in CEYLON. By Sir SAMUEL W BAKER, M.A. F.R.G.S. With Illustrations. Crown 8vo. 7s. 6d.

EIGHT YEARS in CEYLON. By Sir SAMUEL W. BAKER, M.A. F.R.G.S. With Illustrations. Crown 8vo. 7s. 6d.

TWO YEARS IN FIJI, a Descriptive Narrative of a Residence in the Fijian Group of Islands; with some Account of the Fortunes of Foreign Settlers and Colonists up to the Time of the British Annexation. By LITTON FORBES, M.D. F.R.G.S. Crown 8vo. 8s. 6d.

UNTRODDEN PEAKS and UNFREQUENTED VALLEYS; a Mid-summer Ramble among the Dolomites. By AMELIA B. EDWARDS. With a Map and 27 Wood Engravings. Medium 8vo. 21s.

The DOLOMITE MOUNTAINS; Excursions through Tyrol, Carinthia, Carniola, and Friuli, 1861-1863. By J. GILBERT and G. C. CHURCHILL, F.R.G.S. With numerous Illustrations. Square crown 8vo. 21s.

The ALPINE CLUB MAP of SWITZERLAND, with parts of the Neighbouring Countries, on the Scale of Four Miles to an Inch. Edited by R. C. NICHOLS, F.S.A. F.R.G.S. In Four Sheets, price 42s. or mounted in a case, 52s. 6d. Each Sheet may be had separately, price 12s. or mounted in a case, 15s.

MAP of the CHAIN of MONT BLANC, from an Actual Survey in 1863-1864. By ADAMS-REILLY, F.R.G.S. M.A.C. Published under the Authority of the Alpine Club. In Chromolithography on extra stout drawing-paper 28in. x 17in. price 10s. or mounted on canvas in a folding case, 12s. 6d.

HOW to SEE NORWAY. By Captain J. R. CAMPBELL. With Map and 5 Woodcuts. Fcp. 8vo. price 5s.

GUIDE to the PYRENEES, for the use of Mountaineers. By CHARLES PACKE. With Map and Illustrations. Crown 8vo. 7s. 6d.

The ALPINE GUIDE. By JOHN BALL, M.R.I.A. late President of the Alpine Club. 3 vols. post 8vo. Thoroughly Revised Editions, with Maps and Illustrations:—I. *Western Alps*, 6s. 6d. II. *Central Alps*, 7s. 6d. III. *Eastern Alps*, 10s. 6d. Or in Ten Parts, price 2s. 6d. each.

INTRODUCTION on ALPINE TRAVELLING in GENERAL, and on the Geology of the Alps, price 1s. Each of the Three Volumes or Parts of the *Alpine Guide* may be had with this INTRODUCTION prefixed, price 1s. extra.

Works of Fiction.

The ATELIER du LYS; or, an Art-Student in the Reign of Terror. By the Author of 'Mademoiselle Mori' Third Edition. 1 vol. crown 8vo. 6s.

NOVELS and TALES. By the Right Hon. the EARL of BEACONSFIELD. Cabinet Edition, complete in Ten Volumes, crown 8vo. price £3.

LOTHAIR, 6s.
CONINGSBY, 6s.
SYBIL, 6s.
TANCRED, 6s.
VENETIA, 6s.

HENRIETTA TEMPLE, 6s.
CONTARINI FLEMING, &c. 6s.
ALROY, IXION, &c. 6s.
The YOUNG DUKE, &c. 6s.
VIVIAN GREY 6s.

CABINET EDITION of STORIES and TALES by Miss SEWELL:—

AMY HERBERT, 2s. 6d.
GERTRUDE, 2s. 6d.
The EARL'S DAUGHTER, 2s. 6d.
EXPERIENCE of LIFE, 2s. 6d.
CLEVE HALL, 2s. 6d.

IVORS, 2s. 6d.
KATHARINE ASHTON, 2s. 6d.
MARGARET PERCIVAL, 3s. 6d.
LANETON PARSONAGE, 3s. 6d.
URSULA, 3s. 6d.

BECKER'S GALLUS; or, Roman Scenes of the Time of Augustus : with Notes and Excursuses. Post 8vo. 7s. 6d.

BECKER'S CHARICLES; a Tale illustrative of Private Life among the Ancient Greeks : with Notes and Excursuses. Post 8vo. 7s. 6d.

HIGGLEDY-PIGGLEDY; or, Stories for Everybody and Everybody's Children. By the Right Hon. E. M. KNATCHBULL-HUGESSEN, M.P. With Nine Illustrations from Designs by R. Doyle. Crown 8vo. 3s. 6d.

WHISPERS from FAIRYLAND. By the Right Hon. E. H. KNATCHBULL-HUGESSEN, M.P. With Nine Illustrations. Crown 8vo. 3s. 6d.

The MODERN NOVELIST'S LIBRARY. Each Work, in crown 8vo. complete in a Single Volume :—

ATHERSTONE PRIORY, 2s. boards ; 2s. 6d. cloth.

BRAMLEY-MOORE'S SIX SISTERS of the VALLEYS, 2s. boards ; 2s. 6d. cloth.

THE BURGOMASTER'S FAMILY, 2s. boards ; 2s. 6d. cloth.

CONINGSBY. By the Rt. Hon. the EARL of BEACONSFIELD. 2s. boards ; 2s. 6d. cloth.

ELSA, a Tale of the Tyrolean Alps. Translated from the German of WILHELMINE VON HILLERN by Lady WALLACE. 2s. boards ; 2s. 6d. cloth.

LOTHAIR. By the Rt. Hon. the EARL of BEACONSFIELD. 2s. boards ; 2s. 6d. cloth.

MADemoisELLE MORI, 2s. boards ; 2s. 6d. cloth.

MELVILLE'S DIGBY GRAND, 2s. boards ; 2s. 6d. cloth.

———— GLADIATORS, 2s. boards ; 2s. 6d. cloth.

———— GOOD FOR NOTHING, 2s. boards ; 2s. 6d. cloth.

———— HOLMBY HOUSE, 2s. boards ; 2s. 6d. cloth.

———— INTERPRETER, 2s. boards ; 2s. 6d. cloth.

———— KATE COVENTRY, 2s. boards ; 2s. 6d. cloth.

———— QUEEN'S MARIES, 2s. boards ; 2s. 6d. cloth.

———— GENERAL BOUNCE, 2s. boards ; 2s. 6d. cloth.

SYBIL. By the Rt. Hon. the EARL of BEACONSFIELD. 2s. boards ; 2s. 6d. cloth.

TANCRED. By the Rt. Hon. the EARL of BEACONSFIELD. 2s. boards ; 2s. 6d. cloth.

TROLLOPE'S WARDEN, 2s. boards ; 2s. 6d. cloth.

———— BARCHESTER TOWERS, 2s. boards ; 2s. 6d. cloth.

UNAWARES, a Story of an old French Town, 2s. boards ; 2s. 6d. cloth.

Poetry and The Drama.

SOUTHEY'S POETICAL WORKS, with the Author's last Corrections and copyright Additions. Medium 8vo. with Portrait and Vignette, 14s.

LAYS of ANCIENT ROME; with IVRY and the ARMADA. By the Right Hon. Lord MACAULAY. 16mo. with Vignette Title, 3s. 6d.

The ÆNEID of VIRGIL translated into English Verse. By JOHN CONINGTON, M.A. Crown 8vo. 9s.

The ILIAD of HOMER, Homometrically translated by C. B. CAYLEY, Translator of Dante's Comedy, &c. 8vo. 12s. 6d.

HORATII OPERA. Library Edition, with Marginal References and English Notes. Edited by the Rev. J. E. YONGE, M.A. 8vo. 21s.

The LYCIDAS and EPITAPHIUM DAMONIS of MILTON. Edited, with Notes and Introduction, by C. S. JERRAM, M.A. Crown 8vo. 2s. 6d.

BEOWULF, a Heroic Poem of the Eighth Century (Anglo-Saxon Text and English Translation), with Introduction, Notes, and Appendix. By THOMAS ARNOLD, M.A. Univ. Coll. Oxford. 8vo. 12s.

BOWDLER'S FAMILY SHAKSPEARE, cheaper Genuine Editions. Medium 8vo. large type, with 36 WOODCUTS, price 14s. Cabinet Edition, with the same Illustrations, 6 vols. fcp. 8vo. price 21s.

POEMS. By JEAN INGELOW. 2 vols. fcp. 8vo. price 10s.

First Series, containing 'DIVIDED,' 'The STAR'S MONUMENT,' &c. Sixteenth Thousand. Fcp. 8vo. price 5s.

Second Series, 'A STORY of DOOM,' 'GLADYS and her ISLAND,' &c. Fifth Thousand. Fcp. 8vo. price 5s.

POEMS by Jean Ingelow. FIRST SERIES, with nearly 100 Illustrations, engraved on Wood by Dalziel Brothers. Fcp. 4to. 21s.

FESTUS, a Poem. By PHILIP JAMES BAILEY. The Tenth Edition, enlarged and revised. Crown 8vo. 12s. 6d.

Rural Sports, Horse & Cattle Management, &c.

DOWN the ROAD; or, Reminiscences of a Gentleman Coachman. By C. T. S. BIRCH REYNARDSON. Second Edition, with Twelve Coloured Illustrations from Paintings by H. Alken. Medium 8vo. 21s.

ANNALS of the ROAD; or, Notes on Mail and Stage Coaching in Great Britain. By CAPTAIN MALET, 18th Hussars. To which are added, Essays on the Road, by NIMROD. With 3 Woodcuts and 10 Coloured Illustrations. Medium 8vo. 21s.

ENCYCLOPÆDIA of RURAL SPORTS; a complete Account, Historical, Practical, and Descriptive, of Hunting, Shooting, Fishing, Racing, and all other Rural and Athletic Sports and Pastimes. By D. P. BLAINE. With above 600 Woodcuts (20 from Designs by JOHN LEECH). 8vo. 21s.

The FLY-FISHER'S ENTOMOLOGY. By ALFRED RONALDS. With coloured Representations of the Natural and Artificial Insect. Sixth Edition, with 20 coloured Plates. 8vo. 14s.

A BOOK on ANGLING; a complete Treatise on the Art of Angling in every branch. By FRANCIS FRANCIS. New Edition, with Portrait and 15 other Plates, plain and coloured. Post 8vo. 15s.

WILCOCKS'S SEA-FISHERMAN; comprising the Chief Methods of Hook and Line Fishing, a Glance at Nets, and Remarks on Boats and Boating. New Edition, with 80 Woodcuts. Post 8vo. 12s. 6d.

HORSES and RIDING. By GEORGE NEVILLE, M.A. With numerous Illustrations engraved on Wood. Crown 8vo. *[Just ready.]*

ON HORSE-BREAKING, shewing the defects of the system of horse-breaking at present in use, and how to remedy the same; teaching the breaking of horses to saddle and harness, with instructions how to teach horses their different paces; describing also the different classes of horses required for the different kinds of work, &c. Founded on experience obtained in England, Australia, and America. By ROBERT MORETON, M.R.C.V.S. Crown 8vo. 5s.

HORSES and STABLES. By Colonel F. FITZWYGRAM, XV. the King's Hussars. With Twenty-four Plates of Illustrations, containing very numerous Figures engraved on Wood. 8vo. 10s. 6d.

The HORSE'S FOOT, and HOW to KEEP it SOUND. By W. MILES. With Illustrations. Imperial 8vo. 12s. 6d.

A PLAIN TREATISE on HORSE-SHOEING. By W. MILES. Post 8vo. with Illustrations, 2s. 6d.

STABLES and STABLE-FITTINGS. By W. MILES, Imp. 8vo. with 13 Plates, 15s.

REMARKS on HORSES' TEETH, addressed to Purchasers. By W. MILES. Post 8vo. 1s. 6d.

The HORSE: with a Treatise on Draught. By WILLIAM YOUATT. 8vo. with numerous Woodcuts, 12s. 6d.

The DOG. By WILLIAM YOUATT. 8vo. with numerous Woodcuts, 6s.

The DOG in HEALTH and DISEASE. By STONEHENGE. With 70 Wood Engravings. Square crown 8vo. 7s. 6d.

The GREYHOUND. By STONEHENGE. Revised Edition, with 25 Portraits of Greyhounds. Square crown 8vo. 15s.

The OX; his Diseases and their Treatment: with an Essay on Parturition in the Cow. By J. R. DOBSON. Crown 8vo. with Illustrations, 7s. 6d.

Works of Utility and General Information.

The THEORY and PRACTICE of BANKING. By H. D. MACLEOD, M.A. Barrister-at-Law. Third Edition. 2 vols. 8vo. 26s.

The ELEMENTS of BANKING. By HENRY DUNNING MACLEOD, Esq. M.A. Barrister-at-Law. Third Edition. Crown 8vo. 7s. 6d.

M'CULLOCH'S DICTIONARY, Practical, Theoretical, and Historical, of Commerce and Commercial Navigation. Re-edited and corrected to the year 1876, by HUGH G. REID, Assistant-Comptroller H.M. Stationery Office. With 11 Maps and 30 Charts. 8vo. 63s.

The CABINET LAWYER; a Popular Digest of the Laws of England, Civil, Criminal, and Constitutional: intended for Practical Use and General Information. Twenty-fifth Edition. Fcp. 8vo. price 9s.

PEWTNER'S COMPREHENSIVE SPECIFIER; a Guide to the Practical Specification of every kind of Building-Artificers' Work, with Forms of Conditions and Agreements. Edited by W. YOUNG. Crown 8vo. 6s.

WILLICH'S POPULAR TABLES for ascertaining according to the Carlisle Table of Mortality the Value of Lifehold, Leasehold, and Church Property, Renewal Fines, Reversions, &c.; also Interest, Legacy, Succession Duty, and various other useful Tables. Eighth Edition. Post 8vo. 10s.

HINTS to MOTHERS on the MANAGEMENT of their HEALTH during the Period of Pregnancy and in the Lying-in Room. By the late THOMAS BULL, M.D. New Edition, revised and improved. Fcp. 8vo. 2s. 6d.

The MATERNAL MANAGEMENT of CHILDREN in HEALTH and Disease. By the late THOMAS BULL, M.D. New Edition, revised and improved. Fcp. 8vo. 2s. 6d.

The THEORY of the MODERN SCIENTIFIC GAME of WHIST. By WILLIAM POLE, F.R.S. Eighth Edition, enlarged. Fcp. 8vo. 2s. 6d.

The CORRECT CARD; or, How to Play at Whist: a Whist Catechism. By Captain A. CAMPBELL-WALKER, F.R.G.S. late 79th Highlanders; Author of 'The Rifle, its Theory and Practice.' New Edition. 32mo. 2s. 6d.

CHESS OPENINGS. By F. W. LONGMAN, Balliol College, Oxford. Second Edition revised. Fcp. 8vo. 2s. 6d.

THREE HUNDRED ORIGINAL CHESS PROBLEMS and STUDIES. By JAMES PIERCE, M.A. and W. T. PIERCE. With numerous Diagrams. Square fcp. 8vo. 7s. 6d. SUPPLEMENT, price 2s. 6d.

- A PRACTICAL TREATISE on BREWING;** with Formulæ for Public Brewers, and Instructions for Private Families. By WILLIAM BLACK. 8vo. price 10s. 6d.
- MODERN COOKERY for PRIVATE FAMILIES,** reduced to a System of Easy Practice in a Series of carefully-tested Receipts. By ELIZA ACTON. Newly revised and enlarged; with 8 Plates and 150 Woodcuts. Fcp. 8vo. price 6s.
- MAUNDER'S TREASURY of KNOWLEDGE and LIBRARY of Reference;** comprising an English Dictionary and Grammar, Universal Gazetteer, Classical Dictionary, Chronology, Law Dictionary, a synopsis of the Peerage, useful Tables, &c. Revised Edition. Fcp. 8vo. 6s. cloth, or 10s. 6d. calf.
- MAUNDER'S BIOGRAPHICAL TREASURY.** Latest Edition, reconstructed, and partly re-written, with above 1,600 additional Memoirs, by W. L. R. CATES. Fcp. 8vo. 6s.
- MAUNDER'S SCIENTIFIC and LITERARY TREASURY;** a Popular Encyclopædia of Science, Literature, and Art. Latest Edition, in part re-written, with above 1,000 new articles, by J. Y. JOHNSON. Fcp. 8vo. 6s.
- MAUNDER'S TREASURY of GEOGRAPHY,** Physical, Historical, Descriptive, and Political. Edited by W. HUGHES, F.R.G.S. With 7 Maps and 16 Plates. Fcp. 8vo. 6s.
- MAUNDER'S HISTORICAL TREASURY;** General Introductory Outlines of Universal History, and a Series of Separate Histories. Revised by the Rev. G. W. COX, M.A. Fcp. 8vo. 6s.
- MAUNDER'S TREASURY of NATURAL HISTORY,** or Popular Dictionary of Birds, Beasts, Fishes, Reptiles, Insects, and Creeping Things. With above 900 Woodcuts. Fcp. 8vo. price 6s. cloth.
- MAUNDER'S TREASURY of BOTANY,** or Popular Dictionary of the Vegetable Kingdom; including a Glossary of Botanical Terms. Edited by J. LINDLEY, F.R.S. and T. MOORE, F.L.S. assisted by eminent Contributors. With 274 Woodcuts and 20 Steel Plates. Two Parts, fcp. 8vo. 12s. cloth.
- MAUNDER'S TREASURY of BIBLE KNOWLEDGE;** being a Dictionary of the Books, Persons, Places, Events, and other Matters of which mention is made in Holy Scripture. Edited by the Rev. J. AYRE, M.A. With Maps, 16 Plates, and numerous Woodcuts. Fcp. 8vo. price 6s. cloth.

INDEX.

ACTON'S Modern Cookery	28	BRANDE'S Dictionary of Science, Literature, and Art	15
Alpine Club Map of Switzerland	23	BRASSEY'S Voyage of the 'Sunbeam'	22
Alpine Guide (The)	23	BROWNE'S Exposition of the 39 Articles.....	20
AMOS'S Jurisprudence	6	BUCKLE'S History of Civilization	3
——— Primer of the Constitution	6	BUCKLE'S Miscellaneous Works.....	9
ANDERSON'S Strength of Materials.....	12	BUCKTON'S Health in the House	16
ARMITAGE'S Childhood of the English Nation	3	BULL'S Hints to Mothers	27
ARMSTRONG'S Organic Chemistry.....	12	——— Maternal Management of Children	27
ARNOLD'S (Dr.) Christian Life	19	BULLINGER'S Lexicon to the Greek Testament	8
——— Lectures on Modern History	2	Burgomaster's Family (The)	24
——— Miscellaneous Works	9	BURKE'S Vicissitudes of Families	5
——— Sermons	19		
——— School Sermons	19		
——— (T.) English Literature	8		
——— Beowulf	25		
ARNOTT'S Physics	12	Cabinet Lawyer	27
Atelier du Lys (The)	23	CAMPBELL'S Norway	23
Atherstone Priory	24	CAPES'S Age of the Antonines.....	3
AUERBACH'S Anthracen, by CROOKES	16	——— Early Roman Empire	3
Autumn Holidays of a Country Parson	10	CARPENTER on Mesmerism, Spiritualism, &c. ..	9
AYBE'S Treasury of Bible Knowledge	28	CATES'S Biographical Dictionary	5
		——— and WOODWARD'S Encyclopædia	4
		CAYLEY'S Iliad of Homer	25
BACON'S Essays, by ABBOTT	9	Changed Aspects of Unchanged Truths.....	10
——— by WHATELY	7	CHESNEY'S Indian Polity	3
——— Life and Letters, by SPEDDING	5	——— Modern Military Biography	5
——— Works, edited by SPEDDING	7	——— Waterloo Campaign.....	2
BAILEY'S Festus, a Poem	25	COLENSO (Bishop) on Pentateuch	21
BAIN'S Emotions and Will	10	——— on Moabite Stone, &c.	21
——— Logic, Deductive and Inductive.....	6	Commonplace Philosopher, by A.K.H.B. ...	10
——— Mental and Moral Science	10	COMTE'S Positive Philosophy	7
——— on the Senses and Intellect	10	CONGREVE'S Politics of Aristotle	6
BAKER'S Two Works on Ceylon	23	CONINGTON'S Translation of the <i>Æneid</i> ...	25
BALL'S Alpine Guide	23	——— Miscellaneous Writings.....	9
BARRY on Railway Appliances	12	CONTANSEAU'S French Dictionaries	9
BARRY & BRAMWELL'S Lectures on Railways and Locomotives.....	18	CONYBEARE and HOWSON'S St. Paul	20
BEACONSFIELD'S (Lord) Novels and Tales	24	CORDERY'S French Revolution to the Battle of Waterloo	4
BECKER'S Charicles and Gallus	24	Counsel and Comfort from a City Pulpit.....	10
BEELEY'S Gracchi, Marius and Sulla	3	COX'S Aryan Mythology.....	3
BLACK'S Treatise on Brewing	28	——— Athenian Empire	3
BLACKLEY'S German-English Dictionary... ..	9	——— Crusades.....	4
BLAINE'S Rural Sports.....	26	——— History of Greece	2
BLOXAM'S Metals	12	——— General ditto	2
BOLLAND and LANG'S Politics of Aristotle	6	——— Greeks and Persians	3
BOULTBEE on 39 Articles	20	——— Tales of Ancient Greece.....	3
BOURNE'S Catechism of the Steam Engine ..	18	CREIGHTON'S Age of Elizabeth	4
——— Handbook of Steam Engine	18	CRESY'S Civil Engineering	18
——— Improvements in ditto	18	Critical Essays of a Country Parson	10
——— Treatise on the Steam Engine ..	18	CROOKES'S Chemical Analysis	16
BOWDLER'S Family SHAKSPEARE	25	——— Dyeing and Calico Printing	16
BRAMLEY-MOORE'S Six Sisters of the Valleys.....	24	CULLEY'S Handbook of Telegraphy.....	18
		CURTEIS'S Macedonian Empire.....	3

D'AUBIGNÉ's Reformation	20	GROHMAN's Tyrol and the Tyrolese	22
DECAISNE and LE MAOUT's Botany	15	GROVE on Correlation of Physical Forces ...	14
DE TOCQUEVILLE's Democracy in America ..	6	——'s (F. C.) Frosty Caucasus.....	22
DOBSON on the Ox.....	26	GWILT's Encyclopædia of Architecture.....	17
DOVE on Storms.....	12		
DOWELL's History of Taxes.....	6	HALE's Fall of the Stuarts.....	4
DOYLE's Fairyland	17	HARTLEY on the Air	12
DRUMMOND's Jewish Messiah	21	HARTWIG's Aerial World.....	15
		—— Polar World	15
EASTLAKE's Hints on Household Taste.....	17	—— Sea and its Living Wonders ...	15
EDWARDS's Egypt and Nubia	22	—— Subterranean World	15
—— Untrodden Peaks	23	—— Tropical World.....	15
—— Western France	22	HAUGHTON's Animal Mechanics	14
Elements of Botany	15	HAYWARD's Essays	5
ELLICOTT's Commentary on Ephesians	20	HEER's Primæval Switzerland	14
—— Galatians	20	HEINE's Life, Works, and Opinions	5
—— Pastoral Epist.	20	HELMHOLTZ on Tone.....	13
—— Philippians, &c	20	—— Scientific Lectures	13
—— Thessalonians	20	HEMSLEY's Handbook of Trees and Plants ..	15
—— Lectures on the Life of Christ... ..	20	HERSCHEL's Outlines of Astronomy	11
Elsa ; a Tale of the Tyrolean Alps	24	HINCHLIFF's Over the Sea and Far Away ..	22
Epochs of Ancient History	3	HOBSON's Amateur Mechanic.....	18
—— Modern History.....	4	HOSKOLD's Engineer's Valuer	18
EVANS' (A. J.) Bosnia.....	22	HOWORTH's History of the Mongols	3
—— (J) Ancient Stone Implements.....	14	HULLAH's History of Modern Music	13
EWALD's Antiquities of Israel	20	—— Transition Period	13
—— History of Israel	20	HUME's Essays	10
		—— Treatise on Human Nature	10
FAIRBAIRN's Applications of Iron	18		
—— Information for Engineers ...	18	IHNE's Roman History	2
—— Life	4	—— Rome to its Capture by the Gauls ...	3
FARRAR's Chapters on Language.....	7	Indian Alps (The), by a Lady Pioneer.....	22
—— Families of Speech	7	INGELOW's Poems	25
FINLASON's Judicial System	6		
FITZWYGRAM on Horses and Stables	23	JAMESON's Saints and Martyrs	17
FORBES's Two Years in Fiji	23	—— Legends of the Madonna	17
FRAMPTON's (Bishop) Life	4	—— Monastic Orders	17
FRANCIS's Fishing Book	26	JAMESON and EASTLAKE's Saviour	17
FRESHFIELD's Italian Alps	23	JENKIN's Electricity and Magnetism	12
FROUDE's English in Ireland	1	JERROLD's Life of Napoleon	5
—— History of England	1	JOHNSTON's Geographical Dictionary.....	12
—— Short Studies on Great Subjects ..	9	JUKES's Types of Genesis	21
		—— on Second Death	22
GAIRDNER's Houses of Lancaster and York ..	4		
GANOT's Elementary Physics	12	KALISCH's Commentary on the Bible	8
—— Natural Philosophy	12	KEITH on Fulfilment of Prophecy.....	20
GARDINER's Buckingham and Charles	2	KERL's Metallurgy	19
—— Personal Government of Charles I. ...	2	KINGZETT's Alkali Trade	16
—— Puritan Revolution	4	—— Animal Chemistry	15
—— Thirty Years' War	4	KIRBY and SPENCE's Entomology.....	15
GEFFOKEN on Church and State	5	KIRKMAN's Philosophy	10
German Home Life	9	KNATCHBULL-HUGESSEN's Higgledy-Pig-	
GILBERT and CHURCHILL's Dolomites	23	gledy	24
GIRDLESTONE's Bible Synonyms.....	20	KNATCHBULL-HUGESSEN's Whispers from	
GOLDZIEHER's Hebrew Mythology	21	Fairyland	24
GOODEVE's Mechanism	12	KUENEN's Prophets and Prophecy in Israel ..	21
—— Mechanics.....	12		
GRANT's Ethics of Aristotle	6	Landscapes, Churches, and Moralities.....	10
Graver Thoughts of a Country Parson	10	LATHAM's New English Dictionary	8
GREVILLE's Journal	1	—— Johnson's Dictionary	8
GRIFFIN's Algebra and Trigonometry	12	—— Handbook of the English Language ..	
GRIFFITH's Behind the Veil	19		

LAWRENCE'S Early Hanoverians	4	MERIVALE'S Roman Triumvirates	3
LECKY'S History of European Morals.....	3	Romans under the Empire ...	2
Rationalism	3	MERRIFIELD'S Arithmetic & Mensuration .	12
Leaders of Public Opinion	5	MILES on Horse's Feet and Horseshoeing ...	26
LEFFROY'S Bermudas	23	Horses' Teeth and Stables.....	26
Leisure Hours in Town	10	MILL (J.) on the Mind.....	11
Lessons of Middle Age	10	MILL'S (J. S.) Autobiography	4
LEWES' History of Philosophy	3	Liberty.....	7
LEWIS on the Influence of Authority.....	6	Representative Government, ..	7
LIDDELL and SCOTT'S Two Lexicons	8	Utilitarianism	7
LINDLEY & MOORE'S Botanical Treasury...	28	Dissertations and Discussions ..	7
LLOYD'S Magnetism	13	Essays on Religion &c.	19
Wave-Theory of Light	13	Political Economy	7
London Series of English Classics	9	System of Logic	7
LONGMAN'S (W.) Edward the Third	2	Hamilton's Philosophy	7
Lectures on History of England ..	2	Unsettled Questions	7
Old and New St. Paul's	17	MILLER'S Elements of Chemistry	16
(F. W.) Chess Openings.....	27	Inorganic Chemistry	12
Frederick the Great.....	4	MILTON'S Lycidas, by JERRAM	25
German Dictionary	9	Paradise Regained, by JERRAM ..	9
LOUDON'S Agriculture.....	19	MITCHELL'S Manual of Assaying	19
Gardening	19	MONSELL'S Spiritual Songs	21
Plants	15	MOORE'S Irish Melodies	16
LUDLOW'S War of American Independence ..	4	Lalla Rookh	16
LUBBOCK on Origin of Civilisation	14	MORELL'S Mental Philosophy	10
Lyra Germanica	21	MORETON on Horse-breaking	26
MACAULAY'S (Lord) Clive, by BOWEN	9	MORRIS'S Age of Queen Anne	4
Essays	3	MOZART'S Life, by NOHL	4
History of England	1	MÜLLER'S Lectures on Language.....	8
Lays of Ancient Rome 16,17		Science of Religion.....	19
Lays with Ivry, &c.	25	Chips from a German Workshop ..	10
Life and Letters.....	4	NEISON on the Moon	11
Miscellaneous Writings 10		NEVILLE'S Horses and Riding	26
Select Writings	9	New Testament, Illustrated Edition.....	17
Speeches	10	NICOLS'S Puzzle of Life	14
Complete Works	1	NORTHCOTT'S Lathes and Turning.....	19
MACLEOD'S Economical Philosophy	7	O'CONOR'S Commentary on Hebrews	20
Theory and Practice of Banking ..	27	Romans	20
Elements of Banking	27	St. John's Gospel	20
MCCULLOCH'S Dictionary of Commerce ...	27	OSBORN'S Islam	2
MACFARREN on Musical Harmony	17	OWEN'S Evenings with the Skeptics.....	9
Mademoiselle Mori.....	24	(Prof.) Comparative Anatomy and	
MALET'S Annals of the Road	26	Physiology of Vertebrate Animals.....	14
MANNING'S Mission of the Holy Ghost	21	PACKE'S Guide to the Pyrenees	23
MARLOWE'S Doctor Faustus, by WAGNER ..	9	PATTISON'S Casaubon	5
MARSHALL'S Physiology.....	16	PAYEN'S Industrial Chemistry	17
MARSHMAN'S Life of Havelock	5	PEWTNER'S Comprehensive Specifier	27
MARTINEAU'S Christian Life	21	PIERCE'S Chess Problems	27
Hours of Thought.....	21	POLE on Whist	27
Hymns	21	POPE'S Select Poems, by ARNOLD.....	9
MAUNDER'S Biographical Treasury	28	PREECE and SIVEWRIGHT'S Telegraphy ...	12
Geographical Treasury.....	28	Present-Day Thoughts	10
Historical Treasury	28	PROCTOR'S Astronomical Essays	11
Scientific & Literary Treasury ..	28	Moon	11
Treasury of Knowledge.....	28	New Star Atlas	11
Treasury of Natural History ...	28	Orbs Around Us.....	11
MAXWELL'S Theory of Heat	12	Plurality of Worlds	11
MAY'S Constitutional History of England... 1		Saturn and its System	11
History of Democracy	1	Scientific Essays.....	13
MENDELSSOHN'S Letters	4	Sun	11
MELVILLE'S Novels and Tales	21		
Memorials of CHARLOTTE WILLIAMS -			
WYNN	4		
MERIVALE'S Fall of the Roman Republic... 2			
General History of Rome	2		

PROCTOR'S Transits of Venus	11	THORPE and MUIR'S Qualitative Analysis	12
— Universe	11	TILDEN'S Chemical Philosophy	12, 16
PROTHERO'S De Montfort	2	TODD (A.) on Parliamentary Government	22
Public Schools Atlases (The)	12	TRENCH'S Realities of Irish Life	4
RAWLINSON'S Parthia	2	TREVELYAN'S Selections from MACAULAY	9
— Sassanian Monarchy	2	TROLLOPE'S Barchester Towers	24
Recreations of a Country Parson	10	— Warden	24
REDGRAVE'S Dictionary of Artists	16	TWISS'S Law of Nations	5
REEVE'S Residence in Vienna and Berlin	22	TYNDALL'S American Lectures on Light	13
REILLY'S Map of Mont Blanc	23	— Diamagnetism	13
BERESBY'S Memoirs	5	— Electrical Phenomena	13
REYNARDSON'S Down the Road	25	— Fragments of Science	13
RIOH'S Dictionary of Antiquities	8	— Heat	13
RIVERS'S Rose Amateur's Guide	15	— Lectures on Light	13
ROGERS'S Eclipse of Faith	10	— Lessons in Electricity	13
— Defence of ditto	10	— Molecular Physics	13
— Essays	10	— Sound	13
ROGET'S English Thesaurus	8	Unawares	24
RONALD'S Fly-Fisher's Entomology	26	UNWIN'S Machine Design	12
ROSCOE'S Outlines of Civil Procedure	6	URE'S Arts, Manufactures, and Mines	18
SANDARS'S Justinian's Institutes	5	VAUGHAN'S Trident, Crescent and Cross	19
SANKEY'S Sparta and Thebes	3	WALKER on Whist	27
SAVILE on Apparitions	10	WALPOLE'S History of England	1
— on Primitive Faith	20	WARBURTON'S Edward the Third	4
SCHELLEN'S Spectrum Analysis	11	WATSON'S Geometry	12
SCOTT'S Lectures on the Fine Arts	17	WATTS'S Dictionary of Chemistry	16
— Poems	25	WEBB'S Objects for Common Telescopes	11
Seaside Musings	10	WELLINGTON'S Life, by GLEIG	5
SEEBOHM'S Oxford Reformers of 1498	2	WHATELY'S English Synonyms	8
— Protestant Revolution	4	— Christian Evidences	22
SEWELL'S Preparation for Communion	21	— Logic	6
— Questions of the Day	21	— Rhetoric	6
— History of France	3	WHITE'S Four Gospels in Greek	20
— Tales and Stories	21	— Latin Dictionaries	8
— Thoughts for the Age	21	WHITWORTH Measuring Machine (The)	18
— Passing Thoughts	21	WILCOCKS'S Sea Fisherman	26
— Self-Examination	21	WILLIAMS'S Aristotle's Ethics	6
SHELLEY'S Workshop Appliances	12	WILLIOT'S Popular Tables	27
SHORT'S Church History	3	WOOD'S (J. G.) Bible Animals	14
SMITH'S (SYDNEY) Works	10	— Homes without Hands	14
— Wit and Wisdom	10	— Insects at Home	14
— (Dr. R. A.) Air and Rain	12	— Abroad	14
— (R. B.) Rome and Carthage	3	— Out of Doors	14
SOUTHEY'S Poetical Works	25	— Strange Dwellings	14
STANLEY'S History of British Birds	14	— (J. T.) Ephesus	22
STEPHEN'S Ecclesiastical Biography	5	WOODWARD'S Geology	14
STONEHENGE on the Dog	26	WYATT'S History of Prussia	3
— on the Greyhound	26	YONGE'S English-Greek Lexicons	8
STONEY on Strains	18	— Horace	25
STUBBS'S Early Plantagenets	4	YOUATT on the Dog	26
— Empire under the House of		— on the Horse	26
— Hohenstaufen	4	ZELLER'S Socrates	6
Sunday Afternoons	10	— Stoics, Epicureans & Sceptics	6
Supernatural Religion	19	— Plato	6
SWINBOURNE'S Picture Logic	6	ZIMMERN'S Lessing	4
TAYLOR'S History of India	2	— Schopenhauer	4
— (Jeremy) Works, edited by EDEN	22		
Text-Books of Science	12		
THOMÉ'S Structural Botany	12, 15		
THOMSON'S Laws of Thought	7		
THORPE'S Quantitative Analysis	12		







By the same Author.

THE MATERNAL MANAGEMENT of
CHILDREN in HEALTH and DISEASE. Thirteenth Edition, thoroughly revised. Edited by ROBERT W. PARKER, M.R.C.S. Eng., Assistant-Surgeon to the East London Hospital for Children: Surgical Registrar (formerly House-Surgeon, &c.) at the London Hospital: late Resident Medical Officer, Hospital for Sick Children, Great Ormond Street. Fcp. 8vo. price 2s. 6d. cloth.